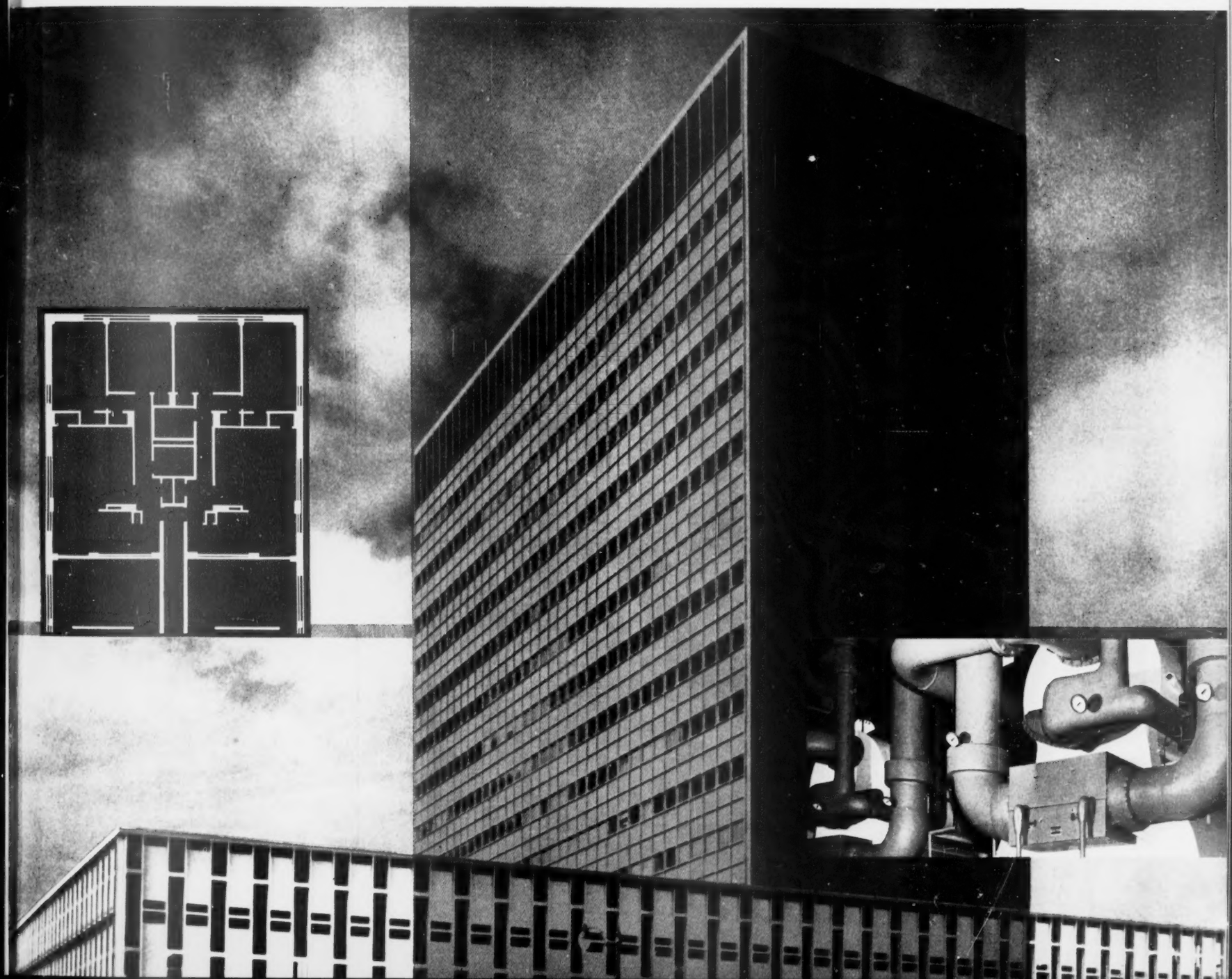
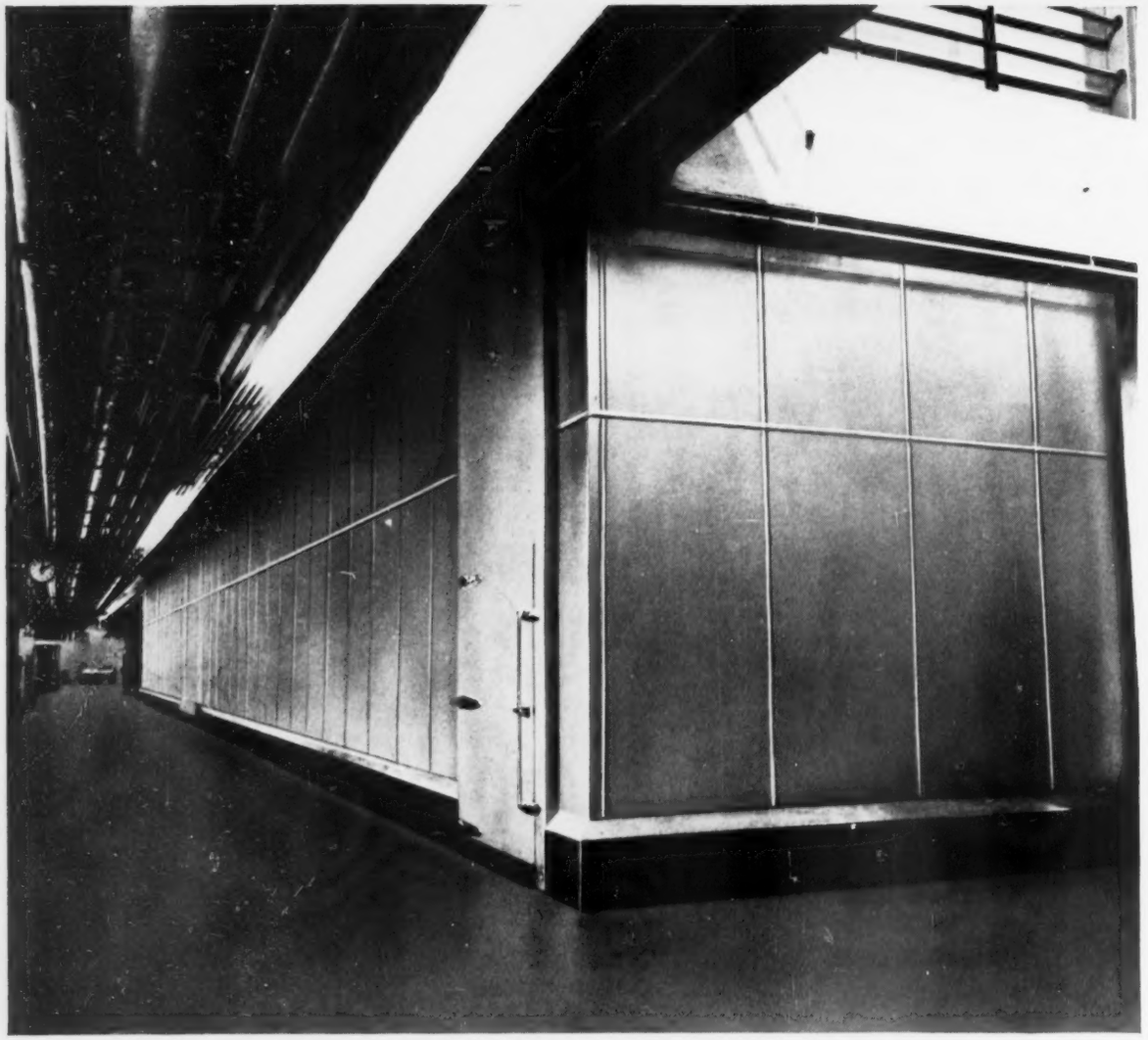
ARCHITECTURAL & ENGINEERING NEWS

FIRST ISSUE • NOV - DEC 1958





FREEZER STORAGE ROOM of Armorply at the plant of National Biscuit Company, Chicago, illustrates how Armorply combines function with attractive appearance, even in industrial applications. This room manufactured by Annapolis Yacht Yard, Inc.

This sub-zero storage can be erected, expanded, or moved in hours

When you specify freezer rooms made of Armorply metal-faced plywood panels, you provide virtually unlimited flexibility for future expansion. What is equally important, installation costs are low, and maintenance cost is practically non-existent.

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COVER BY JAMES LOMONTE:
Layout symbolizes integration of planning and product components necessary to the completed structure. Building shown is Houston Medical Center by Architects Goleman and Rolfe; Consulting Architects: Skidmore, Owings & Merill; Mechanical-Electrical Engineers: Bernard Johnson & Associates; Structural Engineer: Walter P. Moore.

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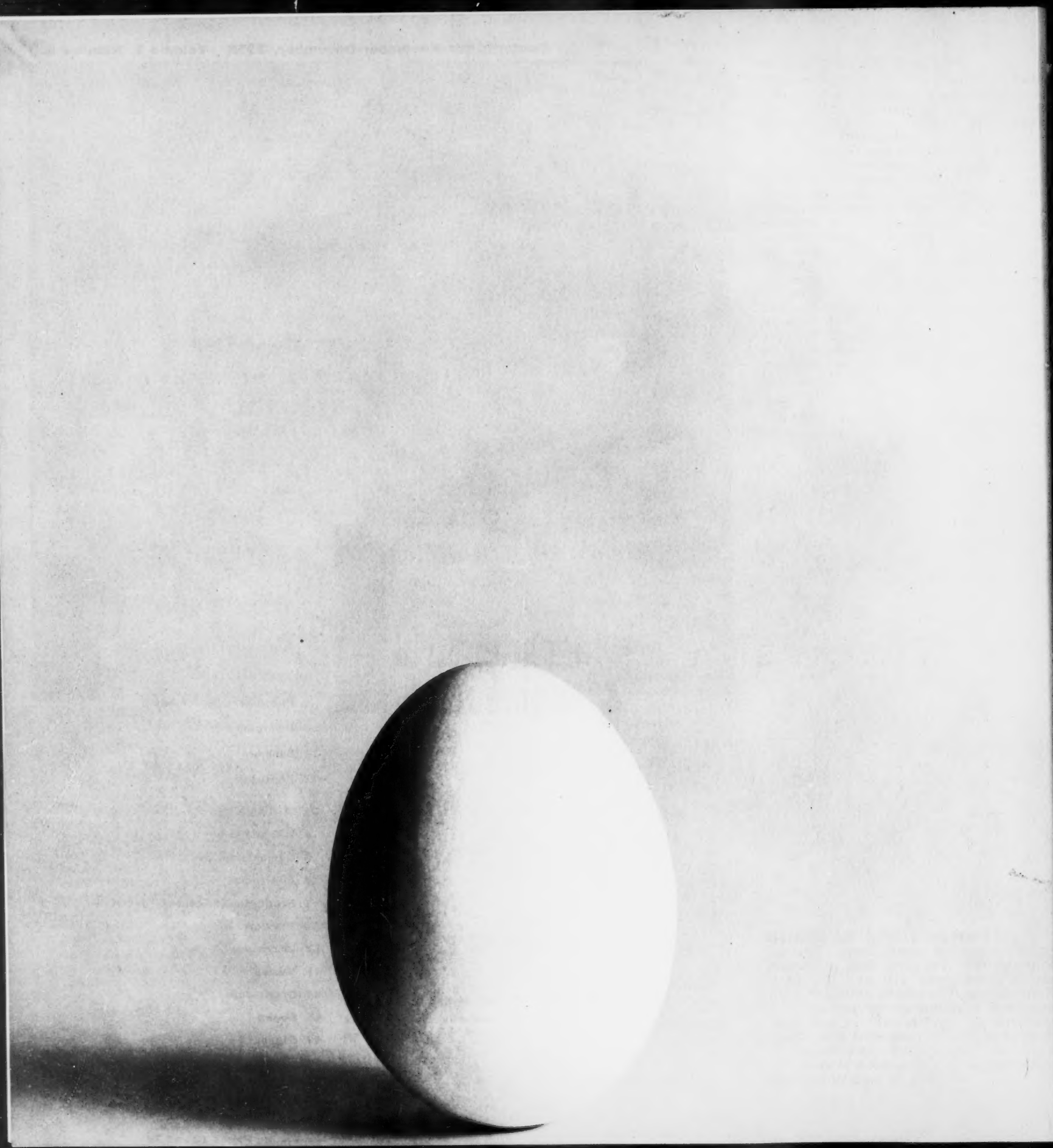

HOW MUCH DOES SCHOOL AIR CONDITIONING COST?

Here are cost figures on five schools that have installed HerNel-Cool year-round air conditioners for schools – some wanted immediate air conditioning, others intend to add air conditioning later simply by installing a chiller in the boiler room. Both get all the natural cooling, heating, ventilating and draft protection features of Herman Nelson unit ventilators.

COST FOR TWO SCHOOLS INSTALLING COMPLETE AIR CONDITIONING SYSTEMS

1 Hyde Park Junior High School, Clark County, Las Vegas, Nevada
Architect & Engineer: Zick & Sharp

GENERAL: 90,000 sq. ft., 38 classrooms, 6 administrative offices, 9 special purpose rooms, gymnasium, cafeteria, library, swimming pool.

CONTRACT COSTS:		UNIT COSTS:	
General	$1,039,997	Total cost per sq. ft.	$11.55
Plumbing	107,300	Air conditioning, heating & ventilating per sq. ft.	1.68
Electrical	139,000		
Air conditioning, heating & ventilating	151,300		

2 Eunice Smith School, Alton, Illinois
Architect: Albert Meyer Goedde, AIA

GENERAL: 28,266 sq. ft., 12 classrooms, multi-purpose room, teachers room, cot room and offices, facilities for handicapped children.

CONTRACT COSTS:		UNIT COSTS:	
General	$278,722	Total cost per sq. ft.	$14.30
Plumbing	29,861	Air conditioning, heating & ventilating per sq. ft.	2.46
Electrical	29,780		
Air conditioning, heating & ventilating	68,100		

COST FOR TWO SCHOOLS EQUIPPED FOR FUTURE AIR CONDITIONING

1 Daviess County High School, Owensboro, Kentucky
Architect: Roberts & Johnson
Engineer: Chas. Young

GENERAL: 126,000 sq. ft., 71 classrooms, gymnasium, auditorium.

CONTRACT COSTS:		UNIT COSTS:	
General	$911,000	Total cost per sq. ft.	$10.40
Plumbing	100,000	Heating & ventilating cost per sq. ft.	1.55
Electrical	105,000		
Heating & ventilating	195,000		

2 North Elementary School, Jones Elementary School, Garden City, Kansas
Architect: Howard T. Blanchard, AIA

GENERAL: Both schools (bid as combined project) total 43,382 sq. ft., 26 classrooms, administration areas, multi-purpose rooms.

CONTRACT COSTS:		UNIT COSTS:	
General	$373,525	Total cost per sq. ft.	$11.83
Plumbing	34,400	Heating & ventilating cost per sq. ft.	1.70
Electrical	31,446		
Heating & ventilating	73,849		

COST FOR A SCHOOL EQUIPPED FOR *BOTH* IMMEDIATE AND FUTURE AIR CONDITIONING

Lackawanna High School, Lackawanna, N. Y.
Architect: John R. Edgar, AIA
Engineer: Donald E. Brill

GENERAL: 165,941 sq. ft., school building for 1200 pupils, service building and connecting tunnel.

CONTRACT COSTS:		UNIT COSTS:	
General	$1,953,700	Total cost per sq. ft.	$16.54
Plumbing	145,393	Air conditioning, heating & ventilating cost per sq. ft.	1.76
Electrical	353,788		
*Air conditioning, heating & ventilating	292,500		

**Office suite, board of Education offices and auditorium are provided with immediate air conditioning. Classrooms are equipped for future air conditioning.*

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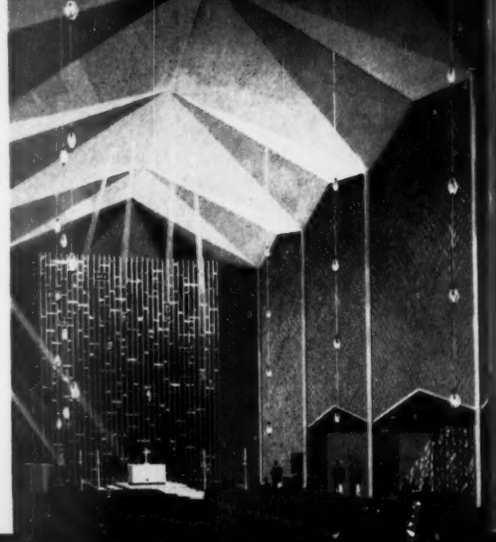
UNIT VENTILATOR PRODUCTS
System of Classroom Cooling, Heating and Ventilating

Further Information Circle 52

Concrete tracery

St. Marks Church in New Canaan, Conn., finds its expression in simple, low cost building materials. The architects, Sherwood, Mills & Smith, state that the design is geared to low maintenance and upkeep, and inexpensive expansion. Engineering features of the building are: church proper will have reinforced concrete frame with non-bearing brick cavity walls which will be used as infill between columns. COLUMNS: reinforced concrete and tapered. There will be moment connection at the bottom and a horizontal beam underneath the floor so, in effect, the columns are cantilevered from the ground. They will be pre-cast rather than hoisted into place and completed in three or four sections. ROOF: cast in place, folded plate may be of coffered construction, spanning full width of nave. BELL TOWER: pre-cast concrete. CONCRETE FINISH: exposed concrete uses white porcelain. EXTERIOR GRILLE: pre-cast concrete units. HEATING SYSTEM: architects considering forced warm air radiant slab, enabling rapid heat start-up for Sunday services. INTERIOR: intricate patterned grille-work, stained glass windows, and free-standing altar with communion rails around four sides. SEATING CAPACITY: 700. OTHER FACILITIES: parish hall seating 400, a chapel, choir room, parlor, sacristy, kitchen, nine classrooms, and parking area for 250 cars. ESTIMATED COSTS: all buildings, site work, church fittings, fees, and contingencies: $1.54 million.

Rendering: Kempa



a/e news

Chicago conference

Creative trends in urban building keynote the theme of the Fourth National Construction Industry Conference to be held December 10 and 11, 1958 at the Hotel Sherman in Chicago. Co-sponsors of this meeting are The American Institute of Architects, The American Society of Civil Engineers, Armour Research Foundation of Illinois Institute of Technology, the Associated General Contractors of America and the Building Research Institute.

The opening panel of the conference concerns itself with Human Needs in Urban Society. Subsequent panels deal with the levels of response to these needs by architects, engineers and builders.

Among the distinguished speakers will be Karl A. Menninger, Menninger Clinic; John E. Burchard, Dean of the School of Humanities at MIT; Paul M. Rudolph, Chairman, Department of Architecture, Yale University; Philip Will, Jr., Vice-President of the AIA; and Eduardo Torroja, Director, Tecnico Instituto, Madrid, Spain.

ASTM symposium

ASTM's recently held international meeting in Philadelphia saw the presentation of various papers and abstracts on the subject of plastics from authors in the U.S. and many of the countries of Europe. Dr. Frank Reinhart, Chief of the Plastics Section of the National Bureau of Standards was chairman of the session on "How National Standards are Achieved." Interviewed by our A/E NEWS reporter, Dr. Reinhart noted that the conference indicated that each participating foreign nation, working independently of each other, had developed similar technical criteria—thereby indicating a universality of approach in research. Work in each of the nations is carried on a voluntary basis for research use in science and industry. ASTM's Plastic D-20 Committee has been developing specifications and standard testing methods for this industry. ASTM people revealed the need for "performance" specifications. However, such detailed and exact specifications involve many legal and commercial questions. At present, for the architect and the consulting engineer, there are no good standards for plastics in building because there is difficulty in "utilizing" the developed research for architectural application. However, the Building Research Institute is currently working on this problem under the direction of Albert G. H. Dietz of MIT. Very soon this group will present its findings in the area of permanence properties and performance values of interest to architects and engineers.

Photo: Fabian Bachrach

VWSS adds an "H": members of the New York architectural firm announcing change in their firm's name which will be Voorhees Walker Smith Smith and Haines are, left to right: Ralph Walker, Perry Coke Smith, Stephen F. Voorhees, Benjamin Lane Smith and Charles Haines.

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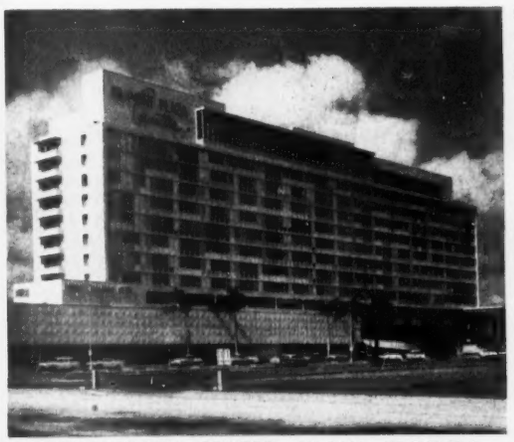

Plaster-Weld is the amazingly versatile, patented liquid bonding agent today specified on hundreds of remodeling and new construction projects by leading architects the country over. In the case of the Dupont Plaza Center, shown at left, Plaster-Weld was used to permanently bond finish plaster to interior concrete surfaces and stucco to exterior concrete surfaces. *Archt.:* Frank H. Shuflin & Associates, Miami; *Genrl. Contr.:* Arkin Construction Company, Miami Beach; *Plstg. Contr.:* E. I. Thompson Co., Atlanta, Ga.

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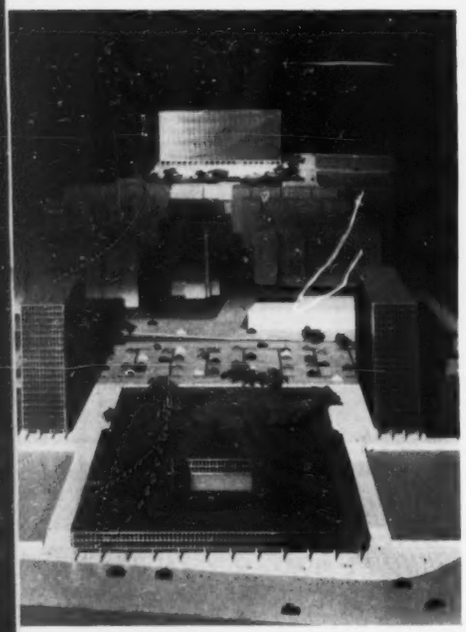
Aluminum Towers for Newark by Mies

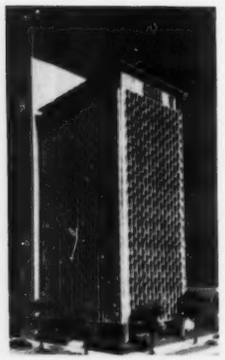
Urban renewal plans of the Newark Housing Authority are presenting the first privately sponsored housing development to be built in downtown Newark in 50 years.

Shown flanking the commercial plaza in the foreground and in the far background are the three 22-story glass and aluminum apartment towers designed to house 1240 families. There will be 520 efficiencies, 440 one-bedroom, 240 two-bedroom and 40 three-bedroom units available ranging from $85 to $225 monthly. Land and buildings will cost approximately $18 million. Mies van der Rohe and his associates including Joseph Fujikawa are the architects. Frank J. Kornacker, structural engineer of the project states that the apartment skyscrapers will be the tallest flat-slab, reinforced concrete structures on the Eastern seaboard.



Rome prize fellowships

Rome prize fellowships for the 1959-1960 year were announced recently by the American Academy in Rome. For prizes, applications and submission of work must be received by Academy's New York office by December 31, 1958. Requests for details should be addressed to: Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y.



U.S. mission to UN

Recently announced United States Mission to the United Nations building started construction in November. Located in New York's United Nations Plaza, the building features a 12-story office wing with a facade screen of cast stone; an adjoining service core and a 2-story auditorium wing set apart by an enclosed landscaped court. The structure, designed by Kelly & Gruzen-Kahn & Jacobs, Associated Architects, provides an effective location and secure office space for the U.S. Mission to the UN. Harwood & Gould, Structural Engineers and Slocum & Fuller, Mechanical Engineers.

65th ASHAE meeting

Thousands of architects, engineers, and contractors will arrive in Philadelphia on January 26, 1959 to attend the 65th Annual Meeting of the American Society of Heating and Air-Conditioning Engineers and the 14th International Heating and Air-Conditioning Exposition under the auspices of ASHAE. The society's Program and Papers Committee has arranged for seven technical sessions including the Topical Session of Comfort, Symposia on Hydronics, Heat Pump Performance, and Corrosion and Water Treatment.

The Topical Session on Comfort is already attracting widespread interest. It will bring together outstanding experts on the subject including Dr. Thomas Bedford, London School of Hygiene and Tropical Medicine, London, England; Dr. Nello Pace, Department of Physiology, School of Medicine, University of California; and ASHAE Director of Research, B. H. Jennings, who will present papers concerned with indoor environment and human comfort.

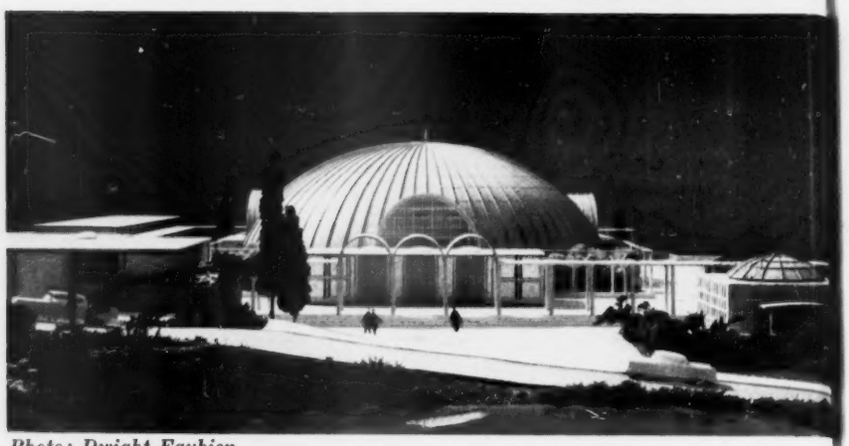


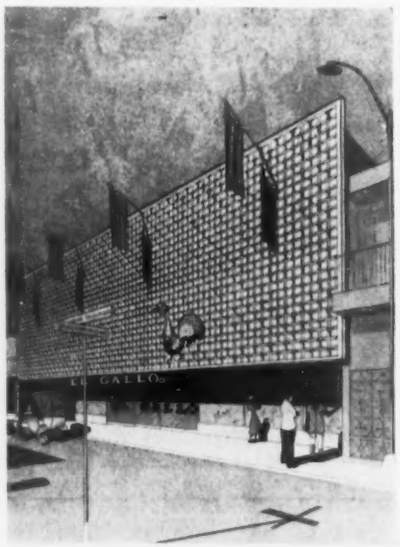
Photo: Dwight Faubion

Byzantine Echo in Precast Concrete

Shown above is model of the Greek Orthodox Church to be constructed in Oakland, Calif. The project, designed by John Lyon Reid and Partners, Architects and Engineers, makes extensive use of precast concrete forms.

Tropical Rooster

Steinhart and Thompson, Architects, mark the opening of their international division designated to work on South and Central American projects. Shown here is "El Gallo" (the rooster), the first new building of its kind in 100 years in Santiago, Dominican Republic. Scheduled for completion in mid 1959, this tropical department store features a specially designed pierced concrete prefabricated screen using the owner's initial "T" as a repeated motif.



Tropical studies dept.

England's Architectural Association has announced the formation within the School of Architecture in London of a Department of Tropical Architecture under the direction of Dr. O. H. Koenisberger. The course of study, among many subjects, will include lectures on "The Effect of Climate on Design and Construction," "Special Types of Tropical Buildings" (including schools, hotels, hospitals), "Tropical Community Traditions and Their Effects on Planning Problems," etc. Informational brochure may be obtained by writing the Association, 34 Bedford Square, London, W.C.1, England.

BRI paint conference

Building Research Institute announces its conference on Field Applied Paints and Protective Coatings to be held December 3rd and 4th at the Shoreham Hotel, Washington, D.C. This meeting will explore new developments in all types of paints for interior and exterior use, and new methods of application, their uses and effectiveness. One session will be devoted to the most economical use of paints and coating for functional color, aesthetics and maintenance of property over the life of a building. Further information may be had from Harold Horowitz, Technical Secretary, Building Research Institute, 2101 Constitution Avenue, Washington 25, D.C.

BRI conference

The New Yorker Hotel in New York City will be the site of the Building

Research Institute's conference on Noise Control in Buildings, scheduled for January 14 and 15, 1959.

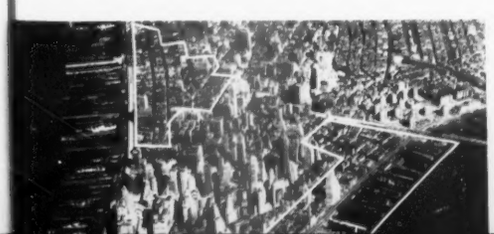
With the primary aim of presenting the subject of noise control in an easily understandable manner to architects, engineers, builders, contractors and others associated with building construction, the program has been divided into these major catagories: Fundamentals of Noise Control; Control of Transmitted Sound; Control of Noise in Air Conditioning and other Mechanical Equipment.

Speakers are being drawn from the ranks of the nation's experts on the subject, and will include such authorities as Julius F. Weinhold, director of the physical plant for Cornell University; Howard C. Hardy of Howard C. Hardy Associates, nationally known acoustics consultants; and Robert B. Newman of Bolt, Beranek and Newman, acoustical engineers.

Those wishing copies of the final program and registration information may contact BRI Technical Secretary, Harold Horowitz, National Academy of Sciences, 2101 Constitution Avenue, Washington 25, D.C.

Lower Manhattan

New York City has been presented with a basic report of recommendations for the future redevelopment of two deteriorating districts of lower Manhattan which flank the financial district to the west and the east. Skidmore, Owings and Merrill, Architects and Engineers, served as consultants in the studies and recommendations made in the report to the study commission headed by David Rockefeller. The report presents three elements: traffic, land use and redevelopment as a framework for rejuvenating the substandard, congested districts outlined in the photo. Although primarily projected as a business occupancy area, the survey visualizes the inclusion of a residential area of 4,000 units, as well as a heliport terminus for air travel connections. Financing would be provided by the combined efforts of the city government, private capital and the individuals and business enterprises concerned.



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communications

This month's communications are in response to the editor's letter asking for comment in three areas: uses of new materials; structural innovations and their general use; and the collaboration of the architect and consulting engineer.

Editor:

. . . The source of most of our current difficulties is the constantly accelerating rate of change which has become a part of man's life in the last 200 years. More and greater changes have occurred since 1900 than in the preceding 500,000 years during which man has existed on our planet. All of us are bewildered and lost and we are in grave danger of losing our powers of adaptability without which we cannot survive. Even if it were possible to familiarize architects with all the new materials and techniques available at a given time this knowledge would be obsolescent by the time it was acquired.

New techniques and new materials are being produced and used with disastrous results by men who do not thoroughly understand them. With very few exceptions the architects whose reputations stand highest today are those who constantly strive for novelty and originality in their work. Where these factors dominate, the work itself suffers and becomes no more than a series of *esquisses* none of which are properly executed in detail. To take one example; an architect who wishes to use curtain walls in a building should devote the major portion of his time for several years to studying all the problems involved in this type of construction before commencing his design. If he does not do this, his work cannot be expected to provide utility, strength and beauty. On the other hand, if he does his homework properly, his investment of time would compel him to design nothing but curtain wall structures throughout his lifetime. This might not be as awful a fate as some might think it to be, for at least in such a case the architect would necessarily become thoroughly familiar with which he was working. Just as in all art "less makes more" so it is vitally important for the artist or the architect to become thoroughly familiar with his medium so that he can refine and perfect his work. It is high time that students of architecture as well as architects rid themselves of the "genius" philosophy of architecture, compromised with their own mediocrity, and proceeded to do as excellent and painstaking work as they possibly can within the framework of their own particular and individual talents. When this step in the right direction has been made it will be found that a great many of the new products and new materials are both supererogatory and meretricious. This will vastly reduce the amount of time wasted on the consideration of novelties and help the professional toward mastery of those products which are meretorious.

When structural innovations are soundly based on hard-boiled practical considerations they will naturally and imperceptibly gain acceptance by the profession. When a whole philosophy of structure is developed around the fact that the increase in the strength of tension materials is many thousands of times greater than the corresponding increase in the strength of compression materials, then it becomes obvious that such a philosophy is worth exploiting.

When structural innovations developed by brilliant designers for specific circumstances are filched bodily and used completely out of context they look ridiculous and bring ridicule upon their designers. To use a structural system dictated by long span structures to roof a small house is not only silly, it is dishonest. Benjamin Franklin said "What's proper is becoming. See the blacksmith in his white silk apron."

In order to practice architecture it is necessary to show proof of competence in structural engineering. All architects must pass a rigorous examination in this subject. In most cases, however, the examination, once passed, is promptly forgotten so that it is absolutely necessary for the architect to work with an engineer except on his smallest projects. If this relationship is to be a true collaboration, the architect should work with the engineer from the beginning of the project. . . . More and more architects would tend to really collaborate with structural engineers if the engineer could learn . . . to bring himself to realize that beauty is not a skin deep coating applied to a structure by decorators but rather a clean positive statement of the structure itself.

Cordially,
ESMOND SHAW, AIA, Head
Department of Architecture
The Cooper Union

Editor:

. . . I am a consulting engineer intimately involved with architects in the design of all types of buildings . . .

In my design approach, I have been orienting in the direction of off-site prefabrication of structural elements as a major step in reducing building costs. One of the media which, I believe, will be used more and more in the future, is precast and prestressed concrete members.

A brief comment on the architect-engineer team: my experience indicates that the most creative efforts are obtained where architects and engineers function as independent entities. Individuals operating independently have a greater potential for creative growth because their experience involves contact with many and different ideas and approaches.

Yours very truly,
JOHN ALEXANDERS, P.E.
Consulting Engineer
Upper Montclair, N. J.

Editor:

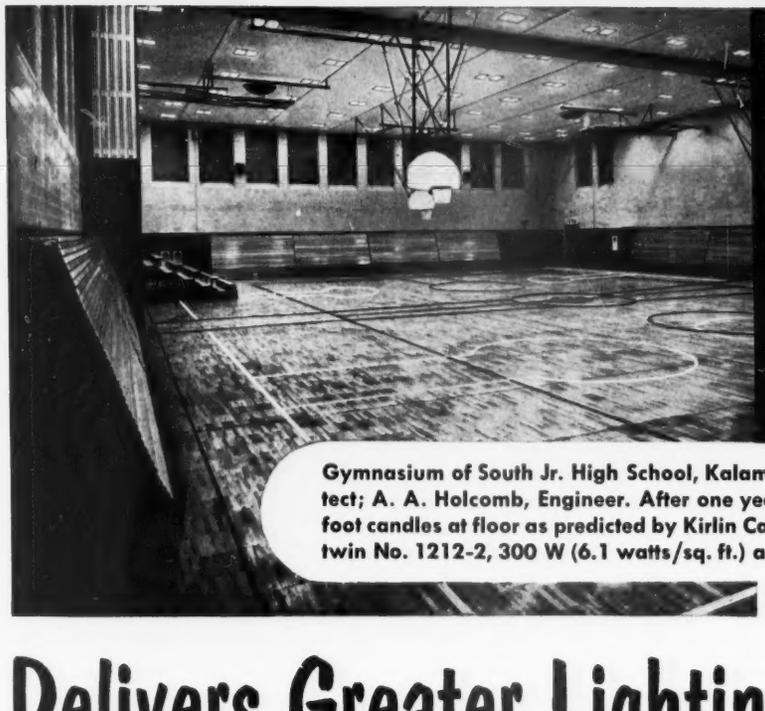
In this office, all materials, whether old or new, are chosen by the architect on the basis of their fitness for the purpose he has in mind. There are many considerations—architectural, structural, and economic—and the architect uses his best judgement in selecting his materials which come closest to a proper balance of qualities. No material is selected because it is new. Each material has both physical and emotional properties. The architect considers both: Most engineers are not trained to consider more than the physical.

I do not know exactly what you mean by "technology of architecture," but presume that you have in mind the process of choosing and controlling the assembly of many different pieces of material into a building entity. The effect of "new materials" (or rather new forms and dimensions of improved old materials) on this "technology" is to give the architect greater variety from which to choose. This increased variety of forms, shapes, sizes, and combinations, provided by manufacturing industry as a result of experimentation and research, has of course affected the aspect of architecture, but in a superficial way. The real architecture continues to be the organization of the space and its conditioning as appropriate and satisfying environment.

In this office it is a principle to use no materials until we are well acquainted with their physical and emotional qualities. We consequently work with a limited palette and add to it slowly.

We are in favor of structural innovations wherever and whenever they offer a better and more economical way to solve a problem, but not for the sake of astonishing the world with our devilish ingenuity. Contrary to a very widespread misconception, the better architects are essentially engineers with special areas of competence not shared by other types of engineers. As such they have, among other things, a highly developed sense of structure. At the same time they are, to varying degrees, creatively inventive. The profession as a whole has been responsible for many of the improvements and extensions in structural design throughout history, including the present day.

(Con't. on page 42)



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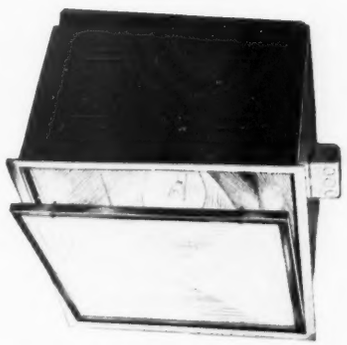
METHOD of LIGHTING
WITH WIDE ANGLE LENS FOR WIDE DISTRIBUTION OF LIGHT RAYS

Gymnasium of South Jr. High School, Kalamazoo, Mich. Louis Kingscott, Architect; A. A. Holcomb, Engineer. After one year, measured intensity was 54 to 55 foot candles at floor as predicted by Kirlin Catalog 55, pp 16. Used were 108 Kirlin twin No. 1212-2, 300 W (6.1 watts/sq. ft.) at approx. 10′ centers on 25′ ceiling.

Delivers Greater Lighting Efficiency

due to Alzak glass-surfaced aluminum reflectors and KIRLIN prism lens.

It was proven on this job, and on many others, that the efficiency tables in the KIRLIN Catalog are correct—although higher than the IES Handbook tables for conventional recessed lighting.



Installation costs are less with Kirlin fixtures. Regular building wire, such as rubber covered, is run direct to exclusive heat-insulated junction box. No asbestos wire is needed.

- Made in all sizes—square or rectangular—and in Fluorescent.
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- UL and IBEW Labels.
- In stock at leading wholesalers.

Your client secures many advantages when you specify the KIRLIN Method. The wide distribution of light rays illuminates vertical surfaces, as for example in this gym it lights the sides of the basket balls and soft balls. There is more useful light from the lamps. (Light concentrated downward like rain lights only the TOP of a ball—in an auditorium or theater it emphasizes the bald heads.)

With the KIRLIN Method, nothing dangles from the ceiling to collect dust, an important factor in the home or office as well as in a gym. When equipped with shock-resisting lens nothing breaks when the ball hits the ceiling. Fixtures can be re-lamped from above the ceiling. Lighting maintenance costs are much less.

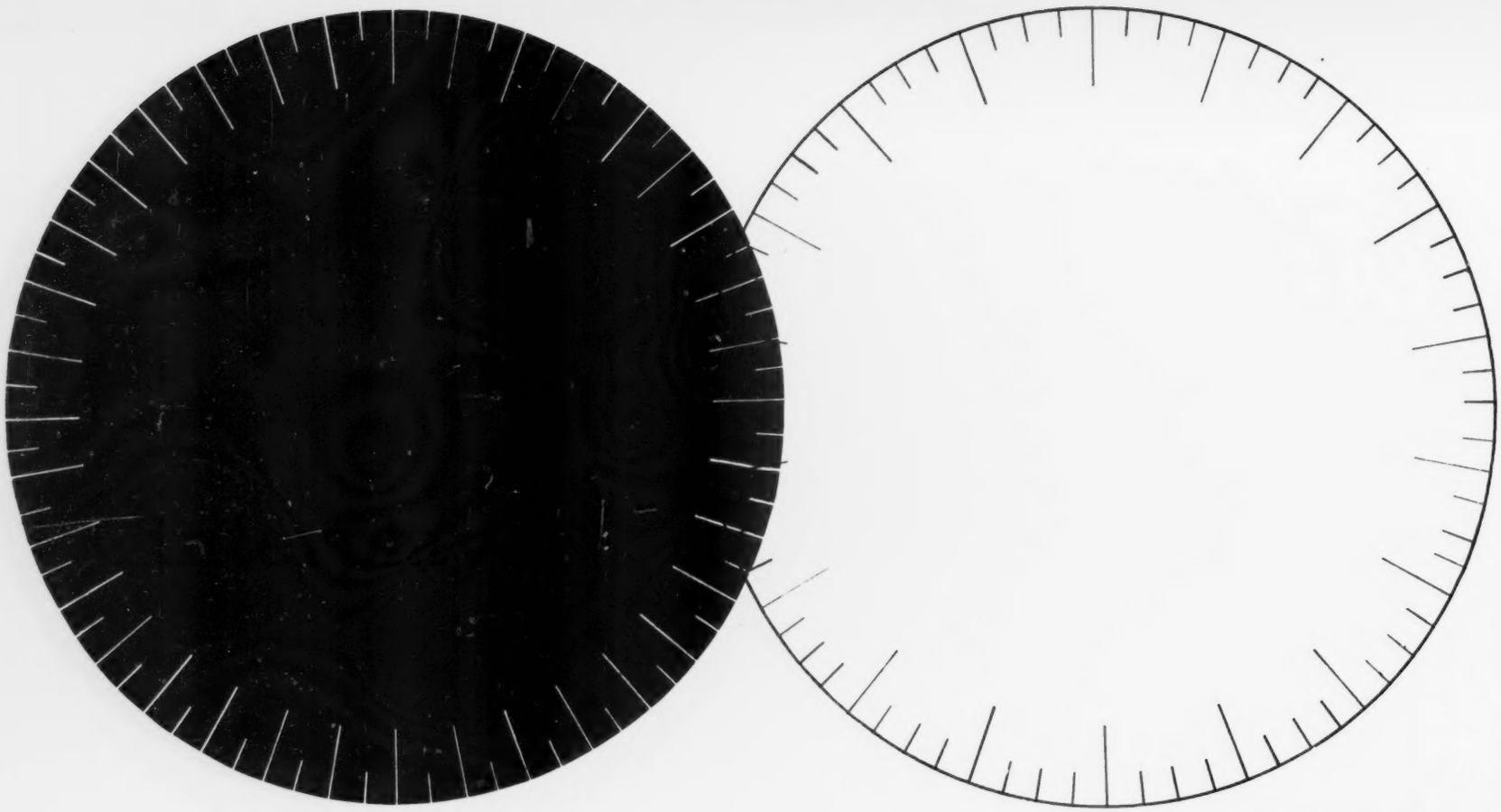
Specify the KIRLIN Method of Lighting and earn the gratitude of your clients. Catalogs and AIA data file on request.

KIRLIN "No-guard" EXITS use shock-resisting glass. Hinged, flush with wall.

For home use too—the Kirlin Lighting Method beautifies all rooms in the house.

The KIRLIN Co. 3435 E. JEFFERSON AVE. DETROIT 7, MICHIGAN

Further Information Circle 56



the architect-engineer team:
a continuous rediscovery of experience . . .

The inter-action of two disciplines: that of the architect and that of his consulting engineer—be he a structural, mechanical or electrical specialist—can be the basis for creative growth or a successive series of skirmishes in a professional *no-man's land.*

According to Fred N. Severud of the engineering firm of Severud-Elstad-Krueger and the recipient of this year's AIA Allied Professions medal, such a "no-man's land" exists. In the event of a major design error, Severud adds, "giant forces are in conflict."

The lines of demarcation in responsibility are difficult to draw. For example, the design of a sunshade or a sunlight controlling device for a building. At what point do the aesthetic demands of the architect, the structural requirement, or mechanical equipment design affected by climatic considerations mesh and determine the absolute responsibility for each man?

The architect as coordinator of the consulting services constantly faces decisions based on this interplay of professional opinion. Therefore each new project becomes *a rediscovery of experience* in which a fresh plan of attack is launched. The *gordian-knot* qualities of the client's budget must be unraveled and then the strategy of planning outlined and assigned.

A survey of architectural and consulting engineering firms reveals a pattern based on the size, structure, and experience of each of the firms. In an effort to determine aspects of the architect-consulting engineer relationship, it may appear as a presumption to restate the case for such a collaboration. However, in view of today's far more complex structures, even a quick glance may prove its value.

Survey results reinforce the statistics published by the AIA's Burdell Commission Report, *The Architect at Mid-Century, Vol. I:* individual practitioner firms utilized services of structural, mechanical and electrical consultants in the following respective percentages: 52%, 77%, and 74%.

Impressive as these figures are, many more architects, were they not located in small or isolated communities, would avail themselves of consultants. Over the years of this past decade, improvement in transportation to and communications with larger urban centers has contributed to remedying this situation.

The Burdell Report observes, "there appears to be a growing tendency for professional engineers to practice in smaller communities." The commission urges that the AIA and the appropriate national engineering societies should publicize the need and opportunity for engineers in this growing field of consulting activity.

Today's structure is the result of the integrated performance of many skills and the design process has to anticipate all these requirements.

The architect's own organization is a team effort, involving many people with varying degrees and combinations of technical skill and talent. The owner, whether an individual, a corporation or a government body, has presented the program to the architect and his design team for study and development in terms of physical space.

Initially, the program is organized by the architectural team and personnel assigned according to the demands of the job and the schedule of the office.

Generally, it was found, that every engineer

wants to be involved in the job only at the very end when every decision has been made —every space and every door-knob assigned.

One architect's comment about consultants was, "they often are all too willing to give up their places as designers and creators and down-grade themselves to the level of skilled technicians." However, most practitioners assume that the role of the consultant is not merely "corrective" but rather his analysis and proposals should be expressed before there is any crystallization of architectural design.

Consider the role of the electrical engineer: most architects do *not* wish him to be merely a "wire-sizer." He is expected to be an illuminating engineer, aware of the aesthetic and psychological characteristics of lighting. Since architectural space is perceived through light, generally under artificial illumination rather than natural light, a visual concept can be successfully accomplished only if it is lighted in accordance with basic design. The architect, visualizing his solution, should be prepared to involve his electrical engineer in progressive stages.

(Con't. on page 15)

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Further Information Circle 57

Survey: a capsuled "wrap-up" of leading professional architectural and engineering societies and their allied service institutions

The Construction Industry Advisory Council of the United States Chamber of Commerce consists of 116 professional societies, service and trade associations.

These societies are serviced by 460 trade papers and periodicals of the construction and building materials industries. Out of this impressive number, 82 publications alone are devoted to architecture and engineering.

A/E NEWS presents a review of those societies and allied institutions who responded to our recent survey.

PROFESSIONAL SOCIETIES

The American Institute of Architects
The Octagon Washington 6, D. C.

John Noble Richards, FAIA, President
Edmund R. Purves, FAIA, Executive Director
Founded 1857. Third oldest professional society in America, following closely the medical men and civil engineers. AIA aims to safeguard public and profession via high code of ethics in practice, unite in fellowship nation's architects; combine their efforts to promote aesthetic, scientific and practical efficiency of profession; advance science and art of planning and building by advancing standards of architectural education, training and practice; coordinate building industry and profession to insure advancement of living standards of nation; and make the profession of ever increasing service to society.
AIA has played decisive role in establishing nation's first architectural schools at MIT, Columbia and University of Illinois; it continues to support work of more than 60 recognized schools of architecture. AIA committees work to improve building research, community planning, schools, hospitals, human safety and general welfare.
AIA has led in preservation of historic buildings and monuments throughout nation. Example: successful restoration of Washington, D. C., in accordance with original plans of L'Enfant and Jefferson. AIA housed in famous Octagon. This restored building, one of most beautiful in Washington, was occupied by President Madison after White House was burned in 1814.
Membership: Election to Institute. Professional qualification: registration/licensure to practice architecture under laws of one's state. 13,000 members, 13 regions, 127 chapters.
Publications: Journal of AIA, The Memo, documents, research bulletins, studies and papers.
Awards: Awards and scholarships: nationally and through chapters.

American Institute of Chemical Engineers
25 W. 45 St., New York 36, N. Y.

George E. Holbrook, President
F. J. Van Antwerpen, Secretary
Currently celebrating golden jubilee of 50 years of service. Objects of AIChE are advancement of chemical engineering in theory and practice, and maintenance of a high professional standard among its members. Institute presents reports of newest developments in science of chemical engineering from experimental laboratories of government, universities and industry. Assists professional schools in curricular standards. Outstanding papers are presented at meetings and published in symposium and monograph series. Various committees guide work of AIChE in education projects, research and standards, among others.
Membership: Election to Institute: professional and experience qualifications. 17,858 members, 66 chapters.
Publications: Chemical Engineering Progress, AIChE Journal, Monograph and Symposium Series.
Awards: Several annual awards and citations to outstanding members.

American Institute of Consulting Engineers
33 W. 39 St., New York 18, N. Y.

Herschel H. Allen, President
Theodore T. McCrosky, Secretary
Since founding in 1910, AICE has been devoted to encouragement of practice of engineering as a profession, promotion of ethical principles and procedures, advancement of interests of engineers in all branches (with emphasis on the consulting engineer), and furtherance of the usefulness of the profession to the public at large.
Membership: Election to Institute: limited to consulting professional engineers. 270 members.
Publications: Engineering Consultants, a directory of its members.

American Institute of Electrical Engineers
33 W. 39 St., New York 18, N. Y.

Emphasizing a continous education for its members, AIEE advances theory and practice of electrical engineering and allied arts and sciences. By maintaining a high professional standard, encouraging research in science and engineering, and rendering public service, AIEE provides means for members to broaden their professional experience. AIEE publishes journals and reports, provides specialized inspection trips, and maintains a technical library service furnishing searches, photostats, and translations as well as basic research facilities. Technical committees represent specific interests: communications, applications, industrial, power, science and electronics, and instrumentation.
Membership: Three categories based on degrees of professional qualification. 53,390 members.
Publications: Electrical Engineering, AIEE Transactions, AIEE Directory, conference reports, standards, pamphlets and special publications.

American Institute of Mining, Metallurgical, and Petroleum Engineers
29 W. 39 St., New York 18, N. Y.

Howard C. Pyle, President (effective February 1959)
One of the "Founder Societies" of the engineering professions. Organized in 1871 by 22 men, AIME now represents 30,000 members. Purpose—to promote arts and sciences connected with economic production of useful minerals and metals. Annual meetings of AIME draw attendance of 4,500 eminent engineers, industrialists, scientists and educators. Some 400 papers are read at the many sessions. At well-attended regional meetings, technical papers are presented.
Membership: Various degrees of membership on qualification. 30,000 members, 85 local sections, 70 student chapters in universities and technological institutes.
Publications: Papers of meetings and conferences.
Awards: William Lawrence Saunders gold metal, among others.

American Institute of Planners
2400 16 St., N. W., Washington 9, D. C.

Charles A. Blessing, President
W. C. Dutton, Jr., Executive Director
AIP, established in 1917, is concerned with study and advancement of science and art of planning of unified development of urban communities and their environs. And of states, regions and nations, as expressed through determination of the comprehensive arrangement of land uses and occupancy and regulation thereof.
Membership: Election to Institute based on education and experience qualifications. Two classes of voting members. 2,100 members, 17 chapters.
Publications: Quarterly *Journal* and newsletter.

American Society of Civil Engineers
33 W. 39 St., New York 18, N. Y.

Francis S. Friel, President
William H. Wisely, Executive Secretary
Second oldest professional society in America. Established five years before AIA in 1852. Objective of society is advancement of science and profession of engineering. Contact maintained with technical progress in various branches of civil engineering. A number of technical divisions conduct work in research, design and construction procedures. Society maintains committee on conditions of practice and also maintains liaison with engineering colleges through student chapters. Sustains educational program and joint activities with other engineering societies.
Membership: Election to Society. Several grades of membership based on professional qualification and experience. 41,940 members, 75 local sections.
Publications: Civil Engineering, directory, official register, journals of various technical divisions, practice manuals, proceedings and transactions.
Awards: Medals, prizes and awards in several categories for contributions to science and practice of engineering.

American Society of Heating and Air-Conditioning Engineers
62 Worth St., New York 13, N. Y.

E. R. Queer, President
A. V. Hutchinson, Executive Secretary
Established 1894, ASHAE is the only professional engineering society which owns and operates own research laboratory. Since 1919, the research laboratory has spent over $2 million on basic research related to heating, ventilating, cooling and air conditioning. The committee on research is aided by over 20 technical advisory committees, who plan and guide specific research investigations. Forty per cent of annual dues revenues allocated to research activity; 22 active projects constitute ASHAE research. Number of standing committees on professional standards, technical information and education are maintained.
Membership: Three degrees based on professional qualification. 12,000 members, 7 regions, 73 chapters.
Publications: Annual *Heating, Ventilating & Air Conditioning Guide*, transactions and journal.
Awards: F. Paul Anderson medal for outstanding work.

American Society of Mechanical Engineers
29 W. 39 St., New York 18, N. Y.

Glenn B. Warren, President
O. B. Schier, II, Secretary
Founded 1880. One of "Founder Societies" of the engineering professions, ASME's objectives are to advance art and science of merchanical engineering. ASME maintains activities in research and publishes codes and standards.
Membership: Various types based on degree of professional efficiency and responsibility. 55,000 members.
Publications: Codes and standards.

The American Society of Refrigerating Engineers
234 Fifth Ave., New York 1, N. Y.

Cecil Boling, President
R. C. Cross, Executive Secretary
Founded 1904, ASRE promotes arts and sciences connected with refrigerating engineering, including refrigeration research, education, design, manufacture, construction and application in air conditioning, food preservation, industrial processing, liquid cooling, manufacturing and similar fields. Research through many technical committees.
Membership: Professional qualification for full membership. 7,145 members, 52 local sections.
Publications: Refrigerating Engineering, Air-conditioning and Refrigerating Data Books, Refrigeration Abstracts and standards.

Engineers' Council for Professional Development
29 W. 39 St., New York 18, N. Y.

W. L. Everitt, President
Nelson S. Hibshman, Secretary
ECPD, organized 1932, resulted from the Conference on Certification, made up of representatives of seven engineering bodies. It is a conference of engineering bodies organized to advance the engineer professionally through cooperative support of national organizations directly representing the professional, scientific, educational and legislative phases of the engineers' life. ECPD is particularly interested in the development of the young engineer and conducts a program of study, recommendation and guidance on education of engineers.
Membership: Three representatives appointed from each of eight participating bodies: ASCE, AIME, ASME, AIEE, EIC, ASEE, AIChE and NCSBEE.
Publications: Annual reports and brochures.

Engineers Joint Council
29 W. 39 St., New York 18, N. Y.

E. R. Needles, President
E. Paul Lange, Secretary
EJC acts as advisory and coordinating agency for 20 engineering societies. It promotes cooperation among various branches of engineering profession and advances science and profession of engineering. Other than standing committees, committees of note are: engineering sciences, international relations, water policy panel, engineering manpower commission, and atomic energy panel.
Membership: Constituent societies: 20 national, state and regional professional engineering societies.
Publications: Abstracting services, reports, booklets and assist in editing *Who's Who in Engineering.*

National Society of Professional Engineers
2029 K St., N. W., Washington 6, D. C.

Dr. Clark A. Dunn, President
Paul H. Robbins, Executive Director
Founded 1934. NSPE acquaints public and users of engineering services with value of engineering as a profession. Creates liaison with legislators and government agencies. Studies and reports on practices in employing engineers, income and economic status of members. Assists young men entering profession. Conducts wide technical, educational and legislative programs. Cooperates with other organizations—among them, AIA, EJC and NCSBEE.
Membership: Registration as professional engineer. 46,000 members, 45 affiliated state societies, 350 local chapters.
Publications: American Engineer, annual report, bulletins and reports.
Awards: NSPE award presented periodically to outstanding engineer.

RESEARCH GROUPS

American Society for Testing Materials
1916 Race St., Philadelphia 3, Pa.

Professor K. B. Woods, President
Fred F. Van Atta, Assistant Secretary
For 60 years, ASTM has concentrated its work in materials in two areas (1) standardization of specifications and methods of testing, and (2) research. Work of ASTM is achieved largely through intensive activities of 80 main technical committees with more than 900 sub-groups and sections. Groups develop and revise specifications and test methods. ASTM's policy is one of rigorous examination, debate and ballot in technical committees and before the Society. Research work is conducted through round-robin tests and other collaborative ways. Com-

SURVEY

mittee on research has 100 distinct projects currently under way.
Membership: Two classes: company and individual. Over 9,100, including leading material experts. Membership open to all concerned with materials.
Publications: Book of ASTM Standards, compilations of standards, special technical publications, yearbook, proceedings of annual meetings, preprints of reports and papers, *ASTM Bulletin* and *Index to Standards and Tentative Standards.*

American Standards Associations, Inc.
70 E. 45 St., New York 17, N. Y.

H. Thomas Hallowell, Jr., President
George F. Hussey, Jr., Vice-Admiral, USN (Ret), Managing Director and Secretary
From modest beginning in 1918, ASA has grown into national federation of more than 110 technical bodies and trade associations. Has recognized more than 1,650 national standards as American standards. About 400 standards projects concurrently active. ASA does not write standards but provides systematic means for developing them. Types of standards are: (1) definitions, terminology, symbols and abbreviations; (2) standards for materials, performance, characteristics, procedure; (3) methods of testing and analysis; (4) standards of size, weight, volume and rating; (5) standards of practice, safety, health and building construction.
Correlating boards of interest to architects and consulting engineers are: acoustical standards, construction standards, electric standards, graphic standards, materials and testing standards, mechanical standards and safety standards. ASA exercises only judicial functions. Maintains reputation free of any partisan interest, be it technical, commercial or political.
Membership: Elected basis: member-bodies of national scope; individual and company memberships based on responsible qualification for service.
Publications: ASA Standards.

Building Research Institute, National Academy of Sciences-National Research Council
2101 Constitution Ave., Washington 25, D. C.

C. H. Topping, President
Milton C. Coon, Jr., Secretary
Organized 1952 to focus attention of construction industry on building research and technology. BRI's three aims: (1) provide forum to present and discuss problems and delineate areas for research; (2) collect, correlate and distribute information; and (3) promote liaison between various segments of industry. Activities: research; correlation conferences; study groups; workshops, roundtables and annual meetings. Members: architects, engineers, manufacturers, contractors, technical and professional societies, research laboratories, financial, realty and insurance firms, technical experts and others. A private, non-profit organization of scientists in all fields. Broad purpose is to promote effective use of scientific and technical resources of nation.
Membership: Open to companies, associations, societies and individuals. 1,000 members.
Publications: monthly newsletter, directory, *BRI Abstracts,* register. proceedings of conferences, reports and technical reports.

Modular Building Standards Association
2029 K St., N. W., Washington 6, D. C.

C. E. Silling, FAIA, President
Byron C. Bloomfield, Executive Director
Sponsored by AIA, PC, NAHB and AGCA. Activities of MBSA fall into two categories: technical and educational-promotional. Concerned with development of product modular-standardization, and wider use of modular methods in drafting room, plant and in field. Presents visual aids program. Current study committee working on composite standards for integrated ceilings. MBSA aims to convince an expanding audience that, "modular measure" is not only an elementary industrial production principle but feasible, practical and economical.
Membership: Any person, firm or corporation in agreement with objectives is eligible. 125-150 members.
Publications: reports, bibliography and technical information.

National Bureau of Standards
Washington 25, D. C.

D. E. Parsons, Chief of Building Technology Division
The work of the National Bureau of Standards of value to architects and engineers is carried out in the Building Technology Division. This division provides technical informaton on building materials and practices to government agencies, to scientific, professional and industrial organizations, and to the general public. Six categories in basic research program: (1) structural engineering; (2) fire protection; (3) AC, heating and refrigeration; (4) floor, roof and wall coverings; (5) codes and safety standards; and (6) heat transfer. Newly developed technical data reported in reports and handbooks.
Publications: Journal of Research of National Bureau of Standards, technical news bulletin and many other publications. Available upon application.

National Science Foundation
1951 Constitution Ave., N. W., Washington 25, D. C.

Alan T. Waterman, Director
The National Science Foundation was established by Congress in 1950. The Foundation engages in supporting basic research in the sciences, programs for improving science education, studies of manpower supply and demand, programs for making scientific information more readily available, and the compilation of data on the national effort in scientific research and development.

JOINT INDUSTRIAL-PROFESSIONAL GROUPS

American Concrete Institute
P. O. Box 4754, Redford Station, Detroit 19, Mich.

Douglas McHenry, President
William A. Maples, Secretary-Treasurer
Since 1904, ACI has gathered, correlated and disseminated information for improvement of design, construction, manufacture, use and maintenance of concrete products and structures. Fifty-four technical committees composed of men in the concrete field devote their attention to the problems dealing with the properties of concrete and its use.
Membership: Five types of membership. 9,600 in USA and 72 foreign.
Publications: Journal of the American Concrete Institute, directory, and manuals.
Awards: Five for outstanding performance.

American Institute of Steel Construction, Inc.
101 Park Ave., New York 17, N. Y.

L. Albrett Post, Executive Vice President
AISC organized 1921 as service organization representing structural steel fabricating industry. Performs for its members engineering investigations, technical research, development of markets and public relations. Continuous and extensive research program is carried on by AISC alone and jointly with other technical bodies. AISC engineers assist local and regional authorities in revision and improvement of building codes.
Membership: 325 qualified fabricators of structural steel.
Publications: Books, standards, and bulletins.
Awards: Annual scholarship to high school graduates.

American Iron and Steel Institute
150 E. 42 St., New York 17, N. Y.

Benjamin F. Fairless, President
George S. Rose, Secretary
Organized 1908, AISI research and test programs, surveys and studies have resulted in basic data and information on the more effective use of steel in building construction. Findings in some studies have been accepted by national standards and code-writing authorities.
Membership: 103 companies and 2600 individuals in iron and steel industry.
Publications: Steel Facts, Steelways, booklets and standards.
Awards: Three for meritorious performances.

Construction Specifications Institute
1520 18th St., N. W., Washington 6, D. C.

J. Stewart Stein, President
Harry C. Plummer, Secretary
CSI promotes improved specification practices in construction and allied industries. Gathers, compiles and analyzes related statistics and information. Research and study of problems and aspects of specification writing. Provides clearing house of unbiased technical information on specifications for fabrication and installation of construction materials and equipment. Pursues policy of encouraging professional specification writing by urging education institutions to lift curricula to professonal level for this field.
Membership: Various degrees—professional: architects and engineers and allied groups. 3,000 members. 26 chapters.
Publications: Construction Specifier.

Illuminating Engineering Society
1860 Broadway, New York 23, N. Y.

George J. Taylor, President
J. R. Chambers, General Secretary
Organized 1906 to provide forum for all matters concerning illumination. IES founders thought specifically of engineering aspects of lighting and many activities remain organized about this professional viewpoint.
Reflected in IES broad membership, representation and scope of activities.
Membership: Various degrees of qualified membership. 9,131 individuals, 448 companies, 84 sections, 4 chapters.
Publications: Illuminating Engineering, Lighting Handbook, data sheets, research and technical papers.

Producers' Council, Inc.
2029 K St., N. W., Washington 6, D. C.

H. Dorn Stewart, President
T. D. Wakefield, Secretary
Established 37 years as an affiliate of the American Institute of Architects, the Producers' Council has created a close working relationship of mutual confidence with the Institute and large number of its 13,000 members. Also closely associated with allied industry groups. Educational and exhibition programs conducted under auspices of Joint AIA-PC Committees. PC works in other joint committees. Conducts Architectural Sales Representatives' Institute and special seminars on products and methods of application.
Membership: 135 member companies, 25 trade associations, 42 chapters.
Publications: Technical Bulletin, special studies, seminar handbooks, guide to films and slides on building materials.
Competitions & Awards: AIA-PC building products literature competition.

PROFESSIONAL EDUCATION

American Society for Engineering Education
University of Illinois, Urbana, Ill.

W. T. Alexander, President
W. Leighton Collins, Secretary
In existence 65 years (formerly as The Society for Promotion of Engineering Education), ASEE advances education and research in engineering, science and related fields. ASEE has 22 divisions and number of committees which arrange technical program of annual meeting and much of the technical work of society. Conducts special studies financed by foundations or industry and issues reports on them. Jointly with Atomic Energy Commission, ASEE sponsors summer courses for teachers on latest developments in nuclear energy areas.
Membership: 8819 individual, 157 industrial and 203 schools. Open to those engaged in engineering education and those interested.
Publications: The Journal of Engineering Education, proceedings, reports and directory.
Awards: Six a year to outstanding persons.

Association of Collegiate Schools of Architecture
Clemson College, Clemson, S. C.

Buford L. Pickens, President
Harlan E. McClure, Secretary
Founded 1912, ACSA is the voice for professional schools of architecture in United States, Canada and Mexico.
Membership: 60 member schools and 13 associate member schools. Member schools have five-year professional collegiate course in architecture; associate member schools are working towards this.

National Council Architectural Registration Boards
736 Lucas Ave., Chariton, Iowa

Walter Martens, President
Joe E. Smay, Executive Director
NCARB aims to facilitate interstate registration of architects and to promote better qualifications for interstate practice.
Membership: Open to state registration boards only.
Currently: 47 states, Hawaii, Canal Zone, Alaska and Puerto Rico.

National Council of State Boards of Engineering Examiners
P. O. Drawer 1404, Columbia, S. C.

L. E. McCartt, President-elect
T. Keith Legaré, Executive Secretary
Council concerned with improving professional engineering standards through efficient administration of state engineering registration laws, by facilitating interstate registration of engineers, and by defining and maintaining national qualifications for registration. Work of council accomplished through standing committees.
Membership: State boards and members of boards of engineering examiners; 53 member boards, with 320 official members.
Publications: The Registration Bulletin.
Awards: Distinguished Service Certificate award to outstanding member.

National Institute for Architectural Education
115 E. 40 St., New York 16, N. Y.

Giorgio Cavaglieri, AIA, Chairman of Board
Cecyljia B. Rother, Secretary-Treasurer
NIAE is outgrowth of the Society of Beaux-Arts Architects. Founded 1894 by group of American architects who had been students together in Paris to offer opportunity for architectural study in USA, not then available. Under auspices of Beaux-Arts Institute of Design, architectural classes opened throughout the country. In 1956 the name was changed to National Institute for Architectural Education. NIAE sponsors competitions, administers prizes, arranges exhibits for loan and conducts activities in area of education.
Membership: Open to all interested in furthering architectural education. 360 members.
Publications: bulletin and newsletter.
Awards: Lloyd Warren Fellowship and other prizes through competitions.

INTERPLAY

(*Con't. from page 11*)

The essential work of the structural engineer is also a familiar example. Much of architecture today is realized by the actual forms that structure generates. Exciting new fields of shell and folded-plate structural design are open to the architect-engineer team. One reaction from a leading member of a structural-engineering consulting firm was, "we're often being pushed too high-up and out too far." An architect's response was that his (the architect's) function was one of *concept* —merely opening more mental doors and moving mental furniture in mental attics—carrying himself and his consultant to newer heights of structural daring and innovation.

Most architects visualize themselves as *synthesizers* of consultant efforts; not merely administrators and integrators but functioning as catalysts, providing the chamber through which the creative contributions of each engineer flow to the over-all programs.

Some observations and conclusions; small offices (6-10 men)—practitioner prefers that the consultant *design* in his own office, where details are immediately developed and incorporated into working drawings by architect's horizontally diversified staff.

Medium size offices: (18-30 men)—prefer use of outside work entirely developed by consultants. They do not maintain engineers on staff because they feel that full-time employees would be prisoners of their own thought, i.e., limited by the outlook and experience of the firm. Obvious advantage of consultants on *project-to-project* basis is freedom to pick and choose consultants based on fresh demands of each new program.

Large metropolitan offices: those not practicing as "engineers" also, usually maintain engineers on staff for routine solutions; however, special clients create demands for consultants for unusual problems.

In summary: architects do *not* want to function as engineers. They do recognize the need to constantly develop a stronger engineering background. At the same time, engineers should be willing to be involved at the basic programming phase of the project. Where differences occur, they result from honest, professionally disinterested opinions based on a variety of experiences.

abstracts

Designing products

On designing products for building industry from address delivered at annual luncheon of Producers' Council, Cleveland, Ohio, 1958. By Philip Will, Jr., FAIA, Second Vice-President, AIA.

". . . I am not among those impressed by the charge that we belong to a backward industry. True, we are diverse, fractionated, yet therein lies our weakness and our strength. We have no single dominant economic powers in our industry such as we find in the automotive giants. This means that few producers or builders (and no architects) can devote massive sums to research and to scientific and economic breakthroughs. The many small units of which we are composed, however, is a strength in that each is an independent thinking and creative organism, each making its own experiments, each trying, each failing, each frequently succeeding and each making its contribution to progress.

"What I would suggest to you today, is that we conserve our strengths and meet our weaknesses by collaboration. Creative partnership between architects and producers is natural, necessary and to date unexploited for the mutual benefit of ourselves and the public . . . You producers are now members of our design team and must be regarded as a creative force in the building industry. This must be so; for the architect can only use that which someone is willing to produce. Furthermore, much that has been invented by the producers has stimulated new building design, has been a source of inspiration and creative of new and basic architectural forms, much as we architects would rather not admit it . . .

"In fact, I frequently feel that you producers deserve more sympathy than you receive. You really live dangerously. With the best intentions in the world, you are the occasional victims of product failure, misuse, improper workmanship and methods, featherbedding craft rules and restrictions. The brightest stars in your line can be dimmed by other and new competitive methods or products, by building codes and the whims of fashion. You sell your product to a variety of people, many irresponsible, unskilled and with low credit ratings. The product is used or installed in all climates, frequently under exposed and uncontrolled conditions. It is shoved, dropped, twisted, scratched, and whacked. The price competition is fierce and the owner still demands perfection.

"As you suffer from these misadventures, so do we architects, for you carry our reputation in the hollow of your hand . . . We believe as an article of faith that a building is a work of art, a creative statement. Therefore, to design this specialized invention and to make of it a work of aesthetic satisfaction, the architect has of the producer and his product certain specific needs if the demands of the client and society are to be met. For convenience, these can be divided into five general catagories, (1) performance (2) cost (3) producer responsibility (4) choice (5) design.

". . . Our greatest opportunity: that of comprehensive planning and design . . . Our opportunities are vast and our responsibility heavy that, in the golden age of building . . . ahead, we exercise our responsibilities wisely in the public interest."

Planned obsolescence

On Planned Obsolescence from October 20 address before 14th annual Convention of American Society of Industrial Designers, Bedford Springs, Pa. by F. M. Hauserman, president of the E. F. Hauserman Company, Cleveland, Ohio.

". . . Advocates of planned obsolescence operate on the theory that designing a product that will wear out or go out of style quickly will create a constant market. To follow this theory can be disastrous . . . My quarrel is with the kind of planned obsolescence that depends for its success on a distortion of basic values—that turns its back on honesty, denies the responsibility of today to the future.

"I think it's pretty important that we ask ourselves whether we are to permit the slums of tomorrow to be planned on the drawing board of today? Are we as members of the greatest industrial society ever known to leave as our only monuments rusting junk heaps? . . . There are those who would have us turn our backs on quality and product integrity—they tell us that quality is a luxury we can no longer afford . . . Of course, we cannot deny that some obsolescence is inevitable.—But there is a big difference between planning to make something obsolete, or allowing it to become obsolete through faulty craftsmanship, and the natural obsolescence that results from change.

"We can find no fault with the latter. Change is inevitable, it cannot be avoided or deterred. In fact, it should be encouraged. Clearly, change obsoletes a product when it develops something better."

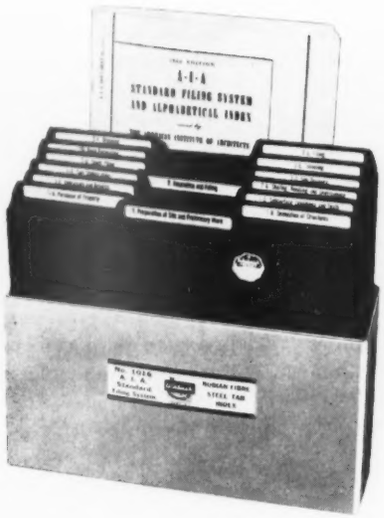
Careless planning

From paper presented before the Institute of Physics, London, England, by Charles Haines, Voorhees Walker Smith Smith & Haines, Architects.

"In recent years, there has been a recognition that rapid obsolescence causes a greater waste . . . than can ever be attributed to high initial construction cost. In the period from 1949 to 1954, we experienced a great desire upon the part of management to use materials that were cheap in first cost, regardless of their maintenance or operating characteristics. Such an attitude was readily understandable, when these same people had just experienced the rapid post-war inflation. Now, however, these early cheap buildings are beginning to show signs of deterioration. It is unfortunate, but true, that poor planning was frequently associated with shoddy materials.

". . . It is my belief, however, that sound construction of lasting and easily maintained materials, properly planned, will prove to be economical. I am certain that . . . buildings start to become obsolete the moment planning ceases . . ."

products, equipment, materials



AIA standard system

MFGRS DESCRIPTION: AIA Standard Filing System: indexing system for small and larger office use designed according to specifications of AIA document no 172.

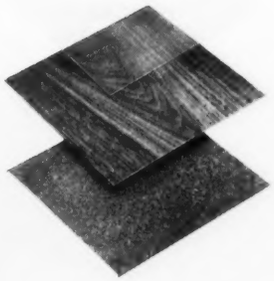
USES: by architects and engineers; permits filing of single sheet dealing with one product or catalog describing group of products; complete indexing system for large office or master headings only for smaller office.

SPECS/FEATURES: 41 master file numbers supplemented by 367 sub-division classfications referring to individual types of materials, appliances, and equipment. Nubian Fibre steel-tabbed index.

AIA reference: document 172

MFGR: WABASH FILING SUPPLIES, INC.

Further Information Circle 101



Vinyl-wood-cork tile

MFGRS DESCRIPTION: Dodge Cork offers "Vinyl-wood"—a resilient flooring tile incorporating a cork base, genuine wood veneer, and a vinyl covering.

USES: residential, commercial: executive offices, libraries, banks, hospitals, and hotels.

SPECS/FEATURES: mfgr recommends installation only over suspended subfloors using "Dodge DCC-1050" waterproof adhesive and mfgr's trowel. Product cannot be installed over concrete slabs at ground level or over radiant heated floors. Mfgr claims for product: cork base resiliency, beauty of wood veneer, nonporosity and durability of vinyl finish. Cost installed appx $2.50 sf. Available in six patterns. Mfgr issues maintenance and performance data for material and removal of various stains, grease spots, etc.

AIA file no 23-g

MFGR: DODGE CORK CO.

Further Information Circle 102

Plastic-metal chair

MFGRS DESCRIPTION: Raymond Spilman designed plastic-metal chair with six modular heat-molded, vinyl-foam cushions, eliminates upholstery process.

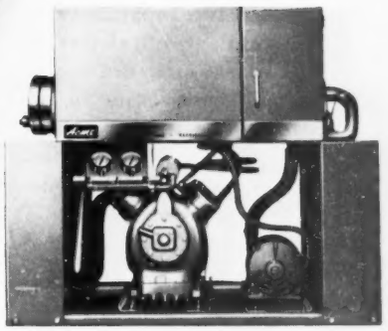
USES: indoor-outdoor, leisure-time use: pool-side, patio or motel furniture. Sun chairs and chaise lounges achieved by addition of more cushions to longer frame.

SPECS/FEATURES: integral cushions: washable and weather resistant; available any color and texture by UCC Elastomer process. Framework: steel or aluminum. Cellular vinyl-foam seating used for schools, subway cars & taxis.

AIA file no 28-a-2/5

MFGR: SIMMONS CO.

Further Information Circle 103



Water chiller

MFGRS DESCRIPTION: "Acme model RG Package Water Chiller" is self-contained refrigeration machine to cool and circulate water.

USES: Industrial, domestic or commercial process or AC applications.

SPECS/FEATURES: Refrigerant circuits: shell and tube type dry expansion liquid cooler, shell and tube condenser, heat exchanger, sealed type or hermetic compressor, and safety and temperature controls. Factory assembled, wired, and tested motor starters and chilled water circulating pumps also provided. Systems factory charged with R-22 and oil. Mfgr states operation immediate upon installation. Units may use city water as condenser cooling medium or use with cooling tower. For evaporative condenser, furnished without

products, equipment, materials

water cooled condenser. Models RG-3 thru RG-10 contain: one refrigerant circuit: single sealed-type motor compressor, one cooler, one condensor, one circulating pump. Models RG-15 thru RG-30 contain: two separate refrigerant circuits: two sealed-type motor compressors, two coolers, two condensers, one circulating pump. Capacity ranges: RG Models: 3-30 tons (illus.), DE Models: 20-125 tons; HE models 20-60 tons.

AIA file no 30-f-21

MFGR: ACME INDUSTRIES

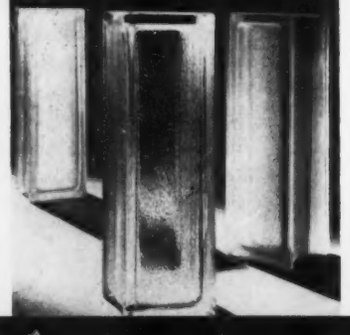
Further Information Circle 104

Slim glass block

MFGRS DESCRIPTION: Pittsburgh Corning's rectangular glass block developed to permit greater design freedom, represents first change in shape of glass blocks in two decades.

USES: wall and partition sections

SPECS/FEATURES: slim, rectangular, acid-etched appearance on inner faces, outer faces are smooth. 4″ x 12″, based on 4″ module, may be used in combination with standard 6″, 8″, 12″, sq blocks. Besides standard unit, block available with white fibrous glass screen in center acting as light diffuser. Also available with mfgr's blue-green "Suntrol" fibrous glass diffusing screen for reducing glare and instantaneous heat gain. Block has same 4″ thickness as regular blocks, but with center screen has insulating value equal to 8″ concrete block wall, mfgr states. Block will also be produced with PC's translucent ceramic colors.



AIA file no 10-f

MFGR: PITTSBURGH CORNING CORP.

Further Information Circle 105

LIGHTING

Outdoor unit

MFGRS DESCRIPTION: Holophane Co. announces its outdoor, wide-spread, high wattage unit #440 for use with 400 watt color corrected or standard mercury lamp, or 500 watt incandescent lamp.

USES: parking lots, shopping centers, play areas, loading docks and other outdoor uses.

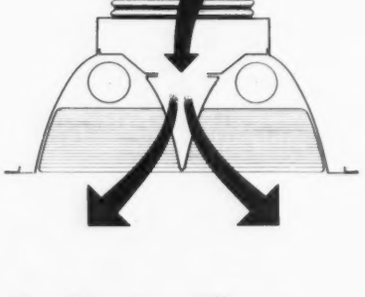
SPECS/FEATURES: refractor of unit will be single-thickness glass of "Endural" with prismatic configuration on both surfaces. Prismatic pattern designed to permit rain to provide cleaning action and reduce maintenance: optical performance supersedes mfgrs old "04179-R" series. Unit designed for vertical burning lamps. Reflector: polished Alzak aluminum. Cast aluminum hood, stainless steel catches to spun aluminum collar equipped with captive felt gasket. Tapered bracket arm is cast aluminum alloy fastened to mounting bases (which includes outlet box) with stainless steel screws.

This product is very new, therefore literature unavailable, but mfgr has photometric data and equipment assembly specifications.

AIA file no 31-f-2

MFGR: HOLOPHANE CO.

Further Information Circle 106



Combination diffuser

MFGRS DESCRIPTION: "Paraflo" troffer provides air diffusion and fluorescent illumination in one architectural element.

USES: commercial and institutional; installed in any suspended ceiling to combine light source and AC diffuser.

SPECS/FEATURES: lab velocity and temperature traverses show units deliver up to 150 cfm at normal temperature differentials. Mfgrs claim conditioned air mixes quietly with room air to provide uniformity and comfort in occupied zone of room. Air stream does not contact ceiling surface thereby not subject to smudging. Air is diffused throughout length of center parabolic louver of perforated metal. Mfgrs say total free area of perforations provide low pressure drop and corresponding low noise level. Center "V" imparts lateral deflection to air stream resulting in spread-type diffusion. Two models: aluminum and white enameled steel. Depth: 5⅞″. Sizes: 1′ x 4′ and 1′ x 8′. Lamps: slimline and/or rapid-start.

AIA file no 31-f-2

MFGRS: DAY BRITE LIGHTING CO. & BARBER-COLMAN CO.

Further Information Circle 107

Shallow unit

MFGRS DESCRIPTION: Garcy Lighting announces its 3½" deep lighting fixture suitable for low ceiling construction.

USES: commercial and institutional.

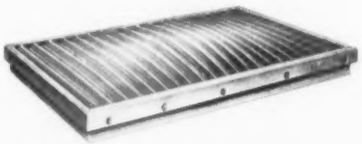
SPECS/FEATURES: two basic parts to install: compact wireway chassis and one piece enclosure that hinges into place after installation of chassis. Length: 4′. Available models: 2-lamp unit 12″ wide; 4-lamp unit 24″. Fixtures furnished with plain or translucent sides. Choice of one piece plastic louver, flat glass, plastic dif-

fuser, or dished plastic panel. Photometric data and details available.

AIA file no 31-f-2

MFGR: GARCY LIGHTING
Further Information Circle 108

ROOF UNITS



Lightweight skylight

MFGRS DESCRIPTION: "Marcolite" skylight designed as preassembled lightweight unit for use where curbs are constructed.

USES: natural lighting source

SPECS/FEATURES: corrugated translucent panel of thermo-setting polyester resin reinforced with fiber glass matting. Mfgr says dome transmits as much light as clear glass. Diffuses light and filters ultra-violet and infra-red rays. "K" factor given as approx. 50% of glass. Coefficient of expansion appx. equal to aluminum frame. Retaining angle: .030" extruded aluminum. Sponge rubber filler strip corrugated to fit light panel. Supporting filler strip panel detailed with condensate gutter and drainage slats. Vertical section of frame, extruded .125" aluminum designed as counter flashing over curb installation. Literature gives: size, schedule, details, additional specifications.

AIA file no 12-j

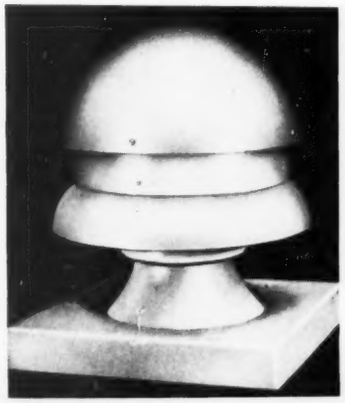
MFGR: THE MARCO CO.
Further Information Circle 109

Plastic exhauster

MFGRS DESCRIPTION: "Super/Air-Van" is offered as a power roof exhauster moulded in reinforced Fiberglas.

USES: commercial, industrial and institutional structures.

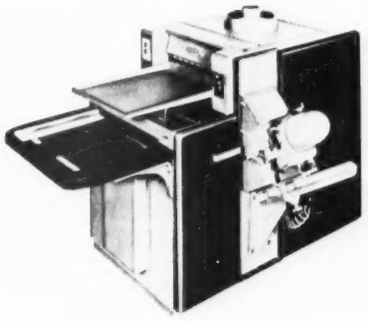
SPECS/FEATURES: mfgr claims advantages over aluminum or steel roof exhausters because unit is actually constructed of sound absorbing and dampening material. Lightweightness creates economy shipping and installation. Corrosion resistant because of Fiberglas—unaffected by salt spray. Material also resistant to most common acids, gases, greases, as well as moisture-laden air. Unit doesn't require painting. Material's color is permanent and requires no maintenance. Mfgr states scroll design gives efficiency to 4" static pressure. Motor is out of air stream, protected by air seal-off which creates curtain of fresh air under negative pressure around motor shaft. Capacities: 100 to 11,000 cfm. Static pressure to 4". Pricing claimed comparable to units in either aluminum or steel. Shipped assembled and ready for installation. Internal weatherproof conduit is included. Engineering specifications available.



AIA file no 12-k

MFGR: GALLAHER CO.
Further Information Circle 110

OFFICE AIDS



35mm enlarger-printer

MFGRS DESCRIPTION: Copytron Model 1000 enlarger-printer utilizes electrostatic reproduction process.

USES: makes working-size enlargements from 35mm drawings and records. Enlargements made for direct reference and distribution. Provides short-run masters for offset printing machines.

SPECS/FEATURES: this unit eliminates inks, stencils, plates, accessory equipment or development solutions. No chemical odors. Compact unit. Single operation from enlarging to final print. Production rate: 180-240 copies per hr. Minimizes tracing storage.

AIA file no 35-h

MFGR: CHARLES BRUNING CO., INC.
Further Information Circle 111

Spiral grip

MFGRS DESCRIPTION: "Locktite Tel-A-Grade 9800SG" offered with a longer metal finger grip designed to lessen finger fatigue in a mechanical pencil holder.

USES: drafting room.

SPECS/FEATURES: mfgr says serrations require less pressure for holding pencil. Aluminum finger tip is gold-plated. Features degree-indicating device and gun-rifled clutch keeps lead from slipping back into holder or turning when lead is sharpened.

AIA file no 35-h-4

MFGR: A. W. FABER-CASTELL CO.
Further Information Circle 112

Coil selection

MFGRS DESCRIPTION: Carrier Corp. announces a system of specially developed charts for sizing air conditioning equipment for office buildings, factories and stores.

USES: by designers of AC systems.

SPECS/FEATURES: Carrier states its simplified technique reduces research time from

products, equipment, materials

three hours to five minutes: building data entered on few lines, simple arithmetic calculation and then reference to performance curves of coils under consideration: charts enable conversion of entering & leaving wet-bulb conditions to apparatus dew point (ADP) or effective surface temperature of exact coil required. Rating tables disclose coil circuiting, water quantity and pressure drop. Kit available from mfgr: includes ADP temperatures in 48-60° F range and 36-48° range; a 72-page catalog containing coil and fan performance curves and rating tables; and special pads for noting engineering data.

AIA file no 30-f

MFGR: CARRIER CORP.
Further Information Circle 113

New fire ratings

MFGRS DESCRIPTION: new fire ratings announced by Keasbey & Mattison Co. for its sprayed "Limpet" asbestos.

USES: asbestos coating applications for fireproofing cellular steel floors, beams and columns.

SPECS/FEATURES: mfgrs test conducted in strict accordance with ASTM specification Ell 9-55, and under observation of Underwriters Laboratories' representative. Two separate tests conducted under which sprayed "Limpet" asbestos subjected to gas flames which reached 2000° F at end of four hrs. Mfgr reports new ratings have received formal approval of U.L. Mfgr claims: cellular steel floor units, 3" deep, with 2½"

There is no substitute for safety, and Polished Misco (wired) affords proven protection for youngsters in the new Walt Disney Elementary School, at Tullytown, Pennsylvania.

Architect: John Carver,
2112 Spruce St., Philadelphia, Pennsylvania

Heat absorption provided by 38,750 sq. of Mississippi Coolite glass make patients more comfortable in the John J. Kane, Allegheny County Institution District (Hospital for the Indigent Sick).

Associate Architects: Button & McLean—Mitchell & Ritchey, Pittsburgh, Pennsylvania
General Contractor: Sherry Richards Company, Chicago, Illinois
Glazing: United Plate Glass Company, Pittsburgh, Pennsylvania

At the Philadelphia International Airport, modern vistas are created by 10,000 sq. ft. of 60" wide lights of Polished Misco (wired glass).

Architect: Carrol, Grisdale and Van Allen, Philadelphia, Pennsylvania
Glazing: Pittsburgh Plate Glass Company

ROLLED GLASS . . . .

New factory of American Chicle Company, Rockford, Ill. where 14,000 sq. ft. of Coolite Wire glass, Glare Reduced, combines heat absorption with protection.

Architect: William Higginson & Sons, New York, N. Y.
General Contractor: Sjostrom & Sons, Inc., Rockford, Illinois
Glazing: National Mirror Works, Rockford, Illinois

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

MISSISSIPPI GLASS CO.

WORLD'S LARGEST

concrete fill, protected with sprayed asbestos fiber filling corrugations and providing ½″ min. thickness below steel rated at 4 hrs. Steel beam, encased with metal lath on wire brackets, similarly protected with 1¼″ thickness of asbestos fiber at sides and 1½″ at bottom rated at 4 hrs. Steel columns, with asbestos fiber sprayed directly to steel surface, with average thickness not more than 12% above minimums or 1½″, 2″, 3″ received respective ratings of 2, 3 and 5 hours. No primary adhesive used in any of applications. Mfgr states test samples were representative of construction for which classifications were granted.

AIA file no 21-a-7

MFGR: KEASBEY & MATTISON CO.

Further Information Circle 114

Siding with insulation

MFGRS DESCRIPTION: "Rexalum Imperial" is offered as an aluminium siding with a factory attached fiber glass insulation blanket.

USES: new and existing residential construction.

SPECS/FEATURES: consists of contour face aluminum clapboard laminated with a thick fiber glass conduction insulation equivalent to 1″ thick insulation board and coated aluminum reflective sheet. Clapboard is roll-formed from .025″ stock. Acoustic qualities of fiber glass backing noted. Mfgr guarantees siding not to rust, rot or warp. Available in seven colors. Panels are 8″ wide in lengths of 12′-6″ or 6′-3″.

AIA file no 12-c

MFGR: CONSOLIDATED GENERAL PRODUCTS, INC.

Further Information Circle 115

CURTAIN WALLS

Curtain wall system

MFGRS DESCRIPTION: Owens-Illinois offers its "Thinlite System" as a complete enclosure ele-

today's best buy in *Daylighting*

The versatility of Rolled Glass provides architects with a practical solution to a variety of daylighting problems. Glass for daylight control, glass that absorbs heat, glass that decorates and glass that protects—they're all available in translucent light diffusing patterns, plain or wired (the latter for obscurity or clear vision) to meet every requirement. For utility, beauty, and economy unmatched by any other glazing medium, specify Mississippi Glass. Write today for free catalog. Address Dept. 18.

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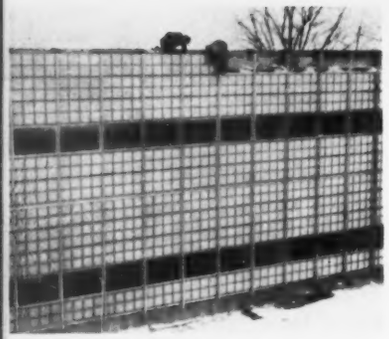
MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Further Information Circle 58



ment with both exterior and interior finish, insulation, structural independence, and means of attachment to building.

USES: system adapted to: schools, industrial plants, hospitals, libraries, etc.

SPECS/FEATURES: thin, lightweight, daylight-controlling glass units are hollow, 2" thick. Factory assembled units. Panel perimeters are extruded aluminum, which interlock for ease of installation. System designed for either 4 or 5 foot horizontal module. Standard panels are 2' high. Erected in vertical stacks & bolted to vertical extruded struts. Included is line of aluminum parts: sill, jams, head members & connectors. Available in 3 colors: white, cool blue-green & "sunlight" yellow. Also available: ceramic-face glass panels, vision panels, porcelain and other special types. System contains its own neoprene gasketting. Mfgr considers this complete for vertical joint weatherseal. System tested at 70 pounds water pressure, and wind tested at 80 mph. Temperature ranges tested from 40° below zero to plus 150°. Comprehensive literature on components and system assembly available.

AIA file no 26-a

MFGR: OWENS-ILLINOIS CO.
Further Information Circle 116

Wafer-thin curtain wall

MFGRS DESCRIPTION: Johns-Manville offers "Micro-Flexboard" core sandwiched between 2 thin sheets of porcelainized aluminum as wall panel of 5/16" overall dimension.

USES: curtain wall with integral exterior and interior finish.

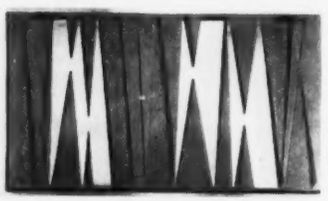
SPECS / FEATURES: designed and utilized by Eero Saarinen & Associates, Architects for IBM plant in Minnesota. Mfgr's thin core of asbestos & cement is sandwiched between 2 thin-gauge sheets of porcelain finished aluminum to each face. Adhesive employed as permanent as porcelain enamel finish, mfgr states. Advantages stressed: lightweight of panels (reducing building loading on foundations, etc); requires no maintenance; will not warp; virtually indestructible and incombustible; and attractive appearance. Aside from 5/16" thinness of panel, ease of erection noted by mfgr. A 4' x 8' panel (wt: 96 lbs) can be installed by 2 man team in 5 minutes. Neoprene gaskets used as surround of entire panel. Applied by hand with special tool.

AIA file no 23-1

MFGR: JOHNS-MANVILLE CO.

Further Information Circle 117

Castings



MFGRS DESCRIPTION: series of castings for metal curtain wall construction provides custom-made basis for architect's design.

USES: mfgr claims for cast panels limitless varieties based on an esthetic choice. Combinations of casting with color.

SPECS/FEATURES: for insulated panels: exterior facing—cast aluminum alloy 43 (dark grey) or alloy 214 (light grey); sand blast background polished or colored to architect's specification. Insulation—2" thick PF 615 fiber glass. Mfgr emphasizes design pattern in panel possible without excessive costs. Mfgr claims stamping die cost prohibitive in short runs. However states product competitive with even as few as 50 panels. Recommends: exercise care in detailing to avoid feather-edge conditions; design should be submitted for consultation prior to detailing; mfgr will point out design and detail limitations.

AIA file no 17-a

MFGR: MICHAELS ART BRONZE CO.
Further Information Circle 118

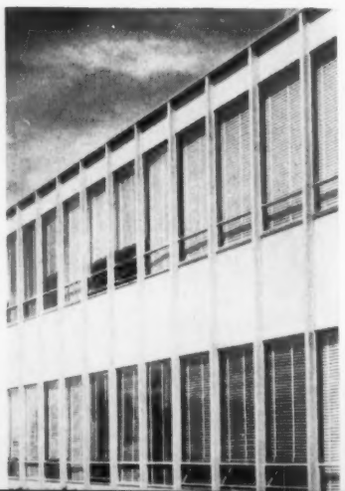
INSULATION

Core panels

MFGRS DESCRIPTION: K & M's recently introduced "Insulpanel" consists of two asbestos-cement sheets bonded with waterproof adhesive to each face of an asphalt-impregnated insulating core.

USES: mfgr recommends exterior use as sidewalls & roof decking. Indoor applications: partitions, ceilings, flooring-lining for cold storage rooms, incubators, heat baffles & heating ducts.

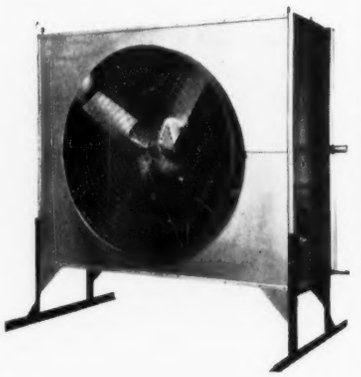
SPEC/FEATURES: material fire-resistant: withstands continuous temperatures up to 200°F. Installation: cut with ordinary carpenter's tools. Can be sawed, drilled and secured with nails, screws, or clips over wood or steel framing. Mfgr claims sound absorption and insulation ("U" values BTU/hr) values in stated charts. Sizes: 48" widths in 6', 8', 9', 10' and 12' lengths; thickness: 11/16"—2". Edge sealed shipment. Painting: if desired, mfgr recommends cementitious-types of "breather" paint. Requires no primer. Otherwise product does not require paint for weather or decay protection. Natural finish is pale-gray.



AIA file no 23-1/12-b

MFGR: KEASBEY & MATTISON CO.
Further Information Circle 119

HVAC



Air cooled condenser

MFGRS DESCRIPTION: McQuay, Inc. announces its "AB model Aircon" air cooled condenser has capacity up to 50 tons in a single unit.

USES: commercial and industrial.

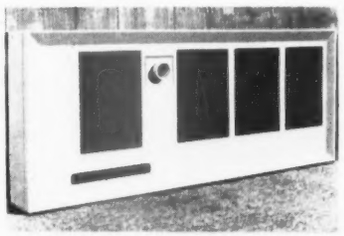
SPECS/FEATURES: unit is belt driven, remote, and designed for waterless refrigeration and AC. Single fan & motor assembly. Two types

products, equipment, materials

available: 2-5 ton, direct drive models for commercial & industrial applications; belt-driven models in 8 sizes: 9-50 ton single units for larger condensing requirement such as in supermarkets, shopping centers, etc. Coils constructed of copper tubes with aluminum fins. Control accessory: "Seasontrol" for year-round control. Designed for multiple circuiting so two or more separate refrigeration systems may be connected to same condenser.

AIA file no 30-f-2

MFGR: McQUAY, INC.
Further Information Circle 120



Baseboard heater

MFGRS DESCRIPTION: Electric baseboard heater that incorporates forced warm air heating offered by Hunter Div. of R&M.

USES: primarily residential, at floor level, mounted against finished plaster wall or directly to studs in new construction.

SPECS/FEATURES: 33″ long, 13″ high and 3⅞″ deep. No accessories or parts to assemble. Mfgr states motor will operate 10,000 hrs. on single lubrication. Low-speed centrifugal fan operates in tandem with thermostat-controlled heating elements, retrieves cool return air through lefthand grille section and thermostat bulb opening. Fan delivers air to heater section where it is warmed. Fan action forces tempered air into living zone. Three capacities: 1,000; 1,500; 2,500 watts—240 V. Respective BTU/hr: 3,410; 5,120; 6,830. Safety feature in front grille. When cleaning interior, automatic-current shut-off. Mfgrs literature shows detailing and installation tolerances.

AIA file no 30-c-44

MFGR: HUNTER DIV., ROBBINS & MYERS, INC.
Further Information Circle 121

Automatic water heater

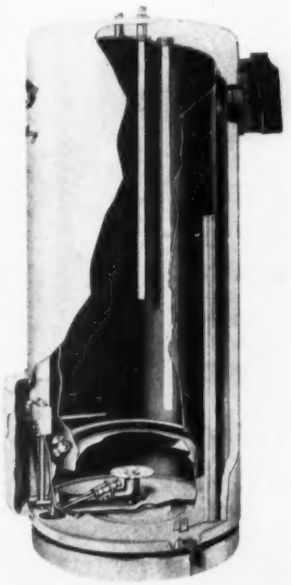
MFGRS DESCRIPTION: "Burkay B-50" is an automatic gas-fired, glass lined commercial water heater.

USES: designed for use in small commercial establishments.

SPECS/FEATURES: exterior jacket: baked enamel. Fiberglass insulation. Tank: glass lined. High limit control surface contact type. Thermostatic mixing value provides two temperatures of hot water for one unit. AGA approved 180° temperature water stored for dishwashing sanitized rinse. May be mixed down to desired temperatures for general purposes. Available with cleanout. Literature gives recovery capacities, gal/per hr and sizings.

AIA file no 29-d-21

MFGR: PERMAGLAS DIV., A. O. SMITH CORP.
Further Information Circle 122



SEALS/BONDS

Bonding agent

MFGRS DESCRIPTION: "Tile-Weld" designed to improve appearance and strength of tilegrout.

USES: bonding agent for cementitious materials.

SPECS/FEATURES: "Tile-Weld" described as colorless emulsion, when specified as an admix, produces self-curing grout giving hard, dustless finish. Flexibility claimed that minimizes shrinkage cracks. Mfgrs vibration tests give "Tile-Weld" 13,000 "shock" cycles compared to average grout of 9,000 cycles. Acid-resistant features are considered important for dairy and brewery installations. Product may be diluted with water as primer-sealer on new surfaces prior to receiving mastic for thin-set tile application. Specifications for bonding agents prepared by Ben H. Dyer, AIA, consultant, are available.

AIA file no 23-q

MFGR: LARSEN PRODUCTS CORP.
Further Information Circle 123

Sealant

MFGRS DESCRIPTION: "Pecora Synthacalk" is non-sagging paste useful in caulking and sealing joints and seams where extremes of expansion and contraction prohibit use of conventional oil-based caulks.

USES: designed as sealant for curtain wall construction.

SPECS/FEATURES: marketed in two containers—one holding base compound, other activator component. Mixing done on job by hand or mechanically. Application by: power equipment, caulking gun, spatula or putty knife. Material claimed to adhere well to clean bare surfaces: glass, metal and some smooth plastic surfaces. Adhesion also to semi-porous materials: wood, masonry and painted surfaces. Flexibility said to be maintained at temperature ranges of −65° F to 225° F. Resistance claimed to weather and most common solvents, fuels, grease, salt and fresh water. Color available: aluminum, black, brown, grey and neutral.

AIA file no 7-d

MFGR: PECORA, INC.
Further Information Circle 124

MISCELLANY

Insulated pipe system

MFGRS DESCRIPTION: Portage Insulated Pipe Co. announces addition of "smooth wall piping systems" to its line.

USES: systems for underground and overhead distribution of steam, hot water, oil, other viscous fluids, process liquids and refrigeration lines.

SPECS/FEATURES: is a complete system, including accessories and fittings, factory prefabricated and shipped ready to job site. Mfgr claims minimum of field work. Units available for both single and multiple insulated pipe systems. Literature available: covers specs, trenching dimension allowances, backfilling instruction. Illustrates prefabricated accessories and methods of field connections.

AIA file no 29-b-82

MFGR: PORTAGE INSULATED PIPE CO.
Further Information Circle 125

Sound system

MFGRS DESCRIPTION: Webster "Consolette" unit provides two-channel sound distribution system.

USES: schools, offices, hospitals, etc.

SPECS/FEATURES: total of 114 intercom stations possible. Light annunciators as reminders to "call back" for "busy" line. Two microphone imputs for either high impedance (program distribution) or for one high and one low impedance (voice intercom). Both intercom and program distribution may be used simultaneously.

AIA file no 31-i-51

MFGR: WEBSTER ELECTRIC CO.
Further Information Circle 126

Concealed flashing

MFGRS DESCRIPTION: "Alum-o-top," a concealed flashing, designed for waterproofing, dampproofing, and vermin proofing of residential and industrial buildings.

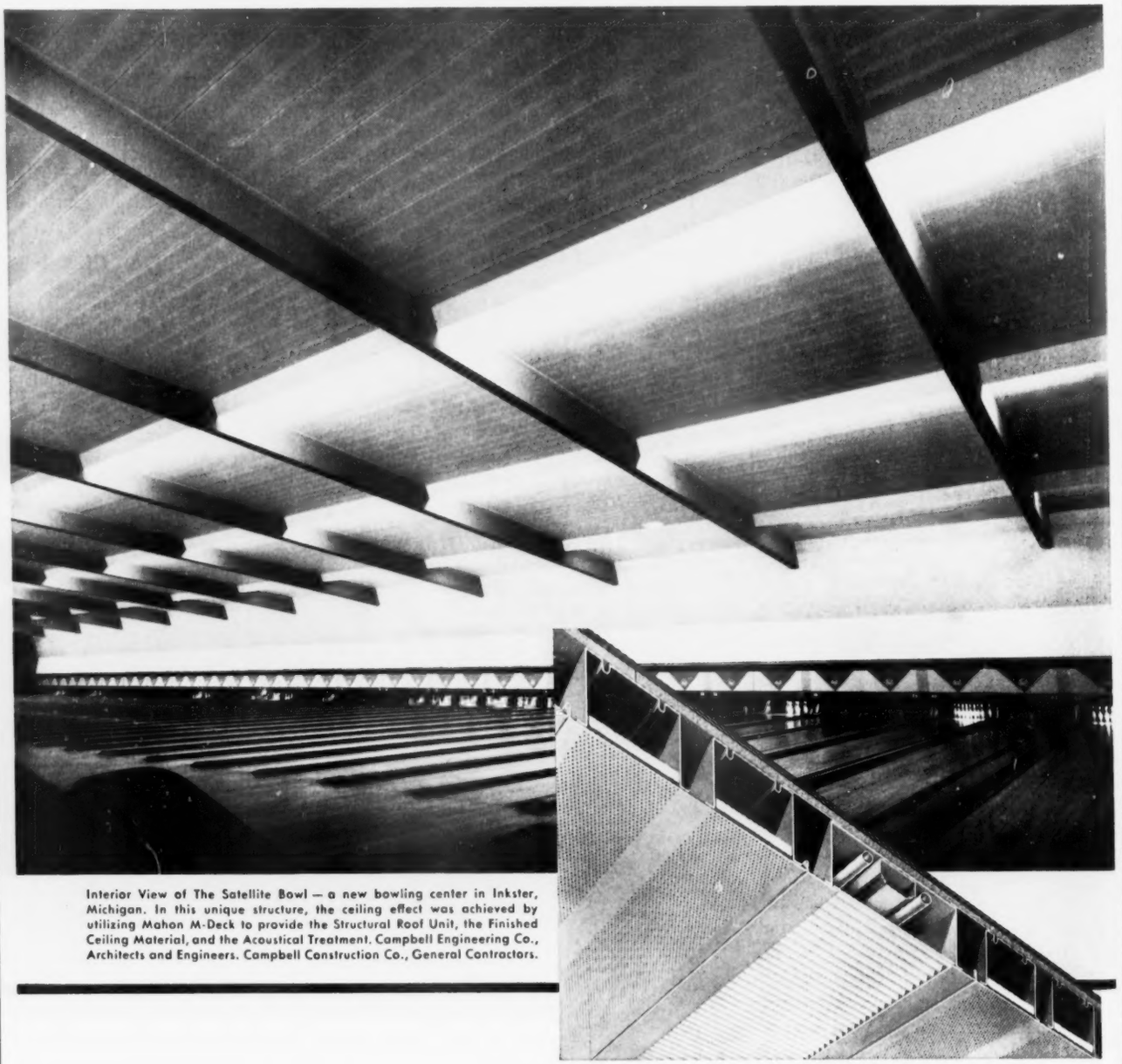
USES: for drip caps, sill flashings, roof and side wall junctures.

SPECS/FEATURES: consists of aluminum sheet, bonded with plasticized asphalt to heavy creped kraft paper. Reinforced with glass fibers spaced ¼" apart and running in both directions. Mfgr claims chemically treated to resist corrosion; flexibility and tear strength stressed. Moisture and air seepage eliminated by hand-folding flashing around nails and corners. Available in two grades: 2 & 4 mil (0.002 & 0.004) in standard paper backing on one side and in sandwich type with paper both sides. Four mil grade meets FHA and VA requirements for concealed flashing and dampproofing. 120-ft roll widths: 4" to 48", wound on 3" cores.

AIA file no 12-h

MFGR: CHASE BRASS & COPPER CO.
Further Information Circle 127

Long Span M-DECK Produces



Interior View of The Satellite Bowl — a new bowling center in Inkster, Michigan. In this unique structure, the ceiling effect was achieved by utilizing Mahon M-Deck to provide the Structural Roof Unit, the Finished Ceiling Material, and the Acoustical Treatment. Campbell Engineering Co., Architects and Engineers. Campbell Construction Co., General Contractors.

Serving the Construction Industry Through Fabrication of Structural Steel, Steel Plate Components, and Building Products

Combined Roof and Acoustical Ceiling in Clear Span Roof Construction!

Roof is Supported by 126 Foot Laminated Wood Arches on 23'-6" Centers; M-Deck Spans from Arch to Arch

MAHON
Long Span
M-DECK SECTIONS

SECTION M1-OB
OPEN BEAM DEPTH 3", 4½", 6" or 7½"
PERFORATED AREA
SECTION M2SR (Acoustical)
CEL-BEAM DEPTH 3", 4½", 6" or 7½"
LIGHT DIFFUSER
SECTION M1T (Troffer)
DEPTH 6" or 7½"
PERFORATED AREA
SECTION M2 (Acoustical)
CEL-BEAM DEPTH 1½", 3", 4½", 6 or 7½"

At Left: Cross Section of Long Span M-Deck Combined Roof-Ceiling with Troffer Lighting.

☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

- M-Floors (Electrified Cellular Steel Sub-Floors)
- Insulated Metal Curtain Walls
- Underwriters' Rated Metalclad Fire Walls
- Rolling Steel Doors (Standard or Underwriters' Labeled)
- Steel Roof Deck
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
- Steel Plate Components—Riveted or Welded

☆ *For INFORMATION See SWEET'S FILES or Write for Catalogues*

THE R. C. MAHON COMPANY • Detroit 34, Michigan
Sales-Engineering Offices in Detroit, New York and Chicago
Representatives in all Principal Cities

MAHON

of Steel and Aluminum

Further Information Circle 59

products, equipment, materials

Monolithic roofing

MFGRS DESCRIPTION: Owens-Corning Fiberglas Corp. announces that combination of "Perma Ply" glass felt (its new material) and asphalt provides a built-up roofing material that is non-rotting and monolithic.

USES: dead-level surfaces in large area built-up roof construction.

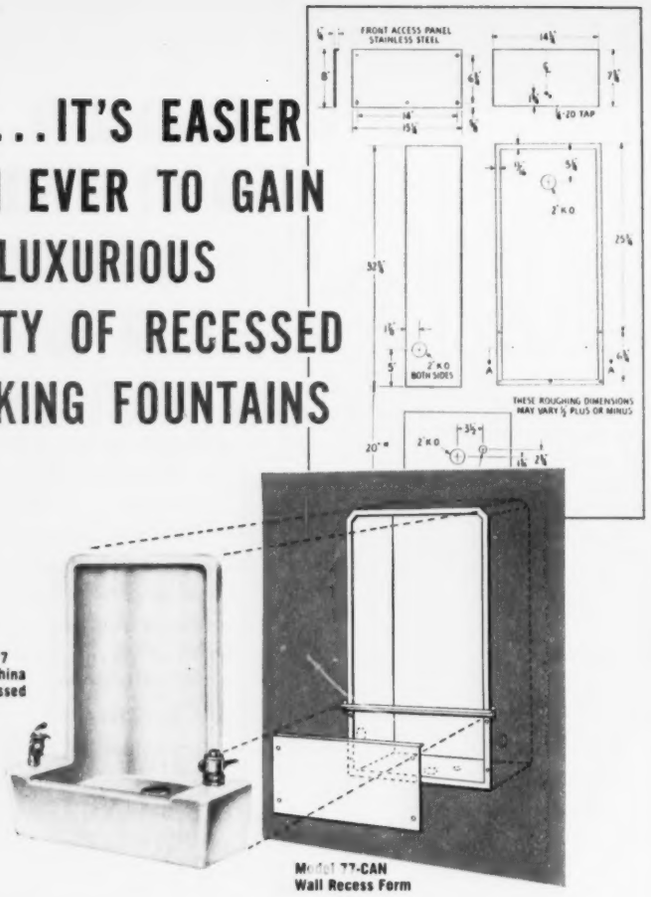
SPECS/FEATURES: mfgr claims "Perma Ply" sheets of fibrous glass, being inorganic material, not subject to rot or damage from sun or abstracted oils from asphalt moppings. Products designed to resist cracking and blistering. The glass felt, being porous-bleed material, will upon hot moppings of bitumen soak through to next layer of glass felt; thereby bonding glass fibers as reinforcement to bitumen and keying materials homogeneously. Mfgr states that three layers of glass-felt equivalent to similar application of conventional four-layer rag and paper felt roofing. Stresses as advantages economies of labor savings, lightweightness of product, and roll measure of five squares compared to standard four square roll. Bonding provided for 10, 15, 20-year built-up roofs.

AIA file no. 12-A-2

MFGRS: OWENS-CORNING FIBERGLAS CORP.

Further Information Circle 128

NOW...IT'S EASIER THAN EVER TO GAIN THE LUXURIOUS BEAUTY OF RECESSED DRINKING FOUNTAINS



Model 77
Vitreous China
Semi-Recessed

Model 77-CAN
Wall Recess Form

WALL RECESS METAL FORMS for Haws Fountains... provide the exact required opening, access panels, knock-out holes, etc., for simple, efficient, economical installation. Install HAWS special metal "CAN" form in the unfinished wall, and the recessed fountain fits snugly and securely. Write for detailed specs on all HAWS recessed models, with special metal forms. Write today.

See HAWS Catalog in Sweets Architectural File

HAWS DRINKING FAUCET COMPANY
1441 FOURTH STREET • BERKELEY 10, CALIFORNIA
Further Information Circle 60

PANELS

Interior panels

MFGRS DESCRIPTION: Masonite offers "Misty Walnut" panels for interior finish installations.

USES: residential and commercial uses.

SPECS FEATURES: "wood-grained" at factory, needs only waxing or clear coating after installation. Available in 3 forms: grooved, random or regular, and ungrooved. Grooves serve as nailing locations. Thickness: ¼" and lengths: 4', 6', 8', 12'. Price ranges 20-22 cents per sf. Plain grained panels with protective coating useful for closets, case goods, or table tops.

AIA file no 23-1

MFGR: MASONITE CORP.
Further Information Circle 129

Acoustical board

MFGRS DESCRIPTION: "G-B Ultracoustic" ceiling board is incombustible glass fiber acoustical ceiling board for suspended acoustical ceiling systems.

USES: suspended ceiling systems.

SPECS/FEATURES: product tested by Riverbank Acoustical Labs and Underwriter's Labs for acoustic efficiency and fire hazard classification. Flame resistance test according to Fed. Spec. SS-A-118b. Rated: Class A—Incombustible. Made of textile-type glass fibers, bonded with thermosetting resins. Thermal efficiency claimed at "K" factor of .23 BTU/hr/sf/F degrees at 75 degrees mean temperature. Light reflection 85%. Off-white, Travertine textured surface repaintable. Material is flexible. Mfgr claims permancency since material is inorganic, will not rot, absorb moisture, sag, absorb odors or react chemically. No other maintenance other than standard cleaning or painting. Sizes 24" x 48" and 24" x 24"—¾" thick.

AIA file no 39-b

MFGR: GUSTIN-BACON MFGR. CO.
Further Information Circle 130

Polarizing panel

MFGRS DESCRIPTION: Owens-Corning Fiberglas Corp. offers a polarizing light panel designed to produce a high efficiency, glare-free illumination for indoor fluorescent units.

USES: as panel for many standard commercial lighting fixtures.

SPECS/FEATURES: panel employs reflected and refracted polarization to achieve brightness control and uniform light distribution. Mfgr claims that panel accomplishes cut-off of direct glare of lens or louver: also reduction of reflected glare usually performed by diffuser. States that product does both. Surface of panel is smooth without prisms, ribs, or corrugations. Mfgrs points out this facilitates cleaning. Produced in flat sheets: 24" x 48" and consists of color-stable resin reinforced with "Fiberglas" flake. This is new form of glass. Formed by drawing molten glass into small flakes, about ½" across and 3/100,000ths to 20/100,000ths of an in. thick. Flakes combined with liquid thermosetting resin to produce polarizing panel. Photometric data being developed by fixture mfgrs for specific unit applications. U.L. claim: slow burning.

AIA file no 24

MFGR: OWENS-CORNING FIBERGLAS CORP.
Further Information Circle 131

CONTROLS

New capacities

MFGRS DESCRIPTION: "Luxtrol," light controls for dimming or brightening lights, offered in higher wattage capacities.

USES: lighting control in residence, offices, stores, hospitals, hotels, restaurants and cocktail lounges.

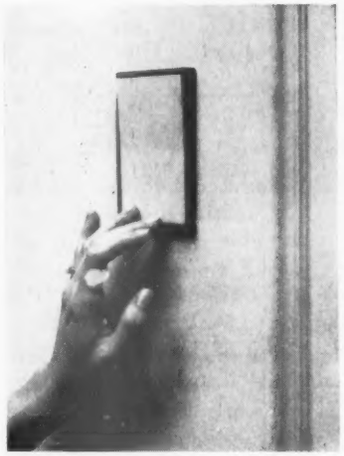
SPECS/FEATURES: original 360 watt capacity of control now extended to handle 450, 800, or 1800 watts. Small enough to be installed in ordinary 4" stud wall. Face plates restyled for closeness of fit to wall. No fuse cap on face of new control. Fluorescent as well as incandescent lighting can be controlled. 450 w. unit controls up to 12 fluorescent tubes, 800 w. unit up to 22 tubes; 1800 w. unit up to 50 tubes. Unit replaces ordinary on-off switches and mfgr states smooth and stepless control of degree of brightness by turning dial. Mfgrs retail prices range from $33.00-74.50. Units are patented & have U.L. approval for incandes-

products, equipment, materials

cent lighting. Mfgrs literature available giving specifications, wiring and detailing data.

AIA file no 31-f-25

MFGR: SUPERIOR ELECTRIC CO.
Further Information Circle 132



Wall switch

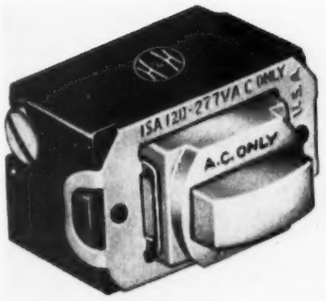
MFGRS DESCRIPTION: Westinghouse's "Fashion Plate" is a straight-sided, rectangular wall plate that frames a large actuator.

USES: to control incandescent lamps, resistance heaters, inductive devices such as ballasts, & at 80% of rated capacity for motors.

SPECS/FEATURES: design lies in modification of a toggle joint to operate as an over center mechanism by applying force to the toggle arms instead of center pivot. Single-pole and three-way switches provided with "feed-through" terminal. 15-20 amp rating for ac use. Voltage: 120-277 v. Mounted in standard wall boxes. Wall plates and actuators available for mounting singly, or in two or three gang combinations. Plate to be black or white. Actuator to be opaque ivory plastic or of clear plastic providing underside for possible decoration with paint or wallpaper.

AIA file no 31-d

MFGR: WESTINGHOUSE ELECTRIC CORP.
Further Information Circle 133



Tap-action switch

MFGRS DESCRIPTION: mfgr states "Interchangeable Quiette Tap Action" switch is only kind of its type on market.

USES: control of incandescent or fluorescent light and appliances; to control motors where full loading does not exceed 80% of current rating of switch; for capacities required by heavier lighting loads.

SPECS/FEATURES: operates on finger-tip, hand, or elbow action anywhere on button surface. Enclosed unit. Compactness and quiet operation emphasized. Installation: any position and fits standard interchangeable wall plate. Terminals: binding screw type. Contacts: silver alloy. Poles: single or double, three-way or four-way. Buttons: brown, ivory or luminous. Ratings: 15 or 20 amps. 120-277 v. ac. Federal Specification W-S-893-A; Standard by U.L.

AIA file no 31-d

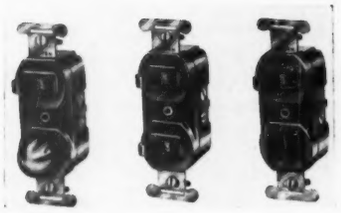
MFGR: ARROW-HART & HEGEMAN ELECTRIC CO.
Further Information Circle 134

Quiet switches

MFGRS DESCRIPTION: Leviton incorporates its "quiet" switches into its "Combination Duplex Devices."

USE: residential, commercial & industrial construction.

SPECS/FEATURES: #5200 series of devices are: single pole quiet switch, 15 A-120 v. AC with power outlet rated 15 A-125 v.; switch with pilot light rated 75 W-125 v; and 2 switches on same circuit rated 15 A-120-277 v. AC (U.L. listing). Silver contacts and magnetic arc-"snuffing" action. Pilot light unit standard lamp. Literature available.



AIA file no 31-d

MFGR: LEVITON MFGR. CO.
Further Information Circle 135

Gentle action switches

MFGRS DESCRIPTION: "Quiette Tap Action" switches said to eliminate need for special expensive parts.

USES: control of incandescent, fluorescent lights and household appliances.

SPECS/FEATURES: fits any toggle wall plate. Terminals: binding screw type. Pole: single or double; three-way or four-way. Buttons: finger-tip, hand or elbow pressure; brown, ivory or luminous. Ratings: 15 amp, 120-277 volts AC. Federal specification: W-S-896-A; standard by U.L.

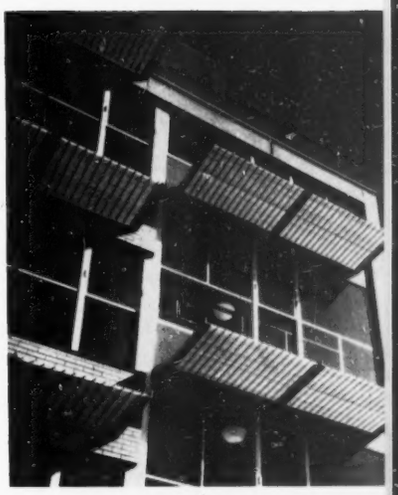
AIA file no 31-d

MFGR: ARROW-HART & HEGEMAN ELECTRIC CO.
Further Information Circle 136

METAL UNITS

Metal grating uses

MFGRS DESCRIPTION: Irving Subway Grating Co. states their traditionally "work horse" product is finding new demand as ornamental material as sun shades, fencing, railing, decorative screens.



USES: illustrated is sun-shade used by Architects Noel & Swinburn on Curtis Hall.

SPECS/FEATURES: open rectangular mesh gratings illustrated are of aluminum with bearing bars 1½" x ⅛", 15/16" oc cross bars spaced 4" oc. In aluminum grating weighs 3.2 lbs/sf. Mfgr states that architects currently experimenting with aluminum gratings, anodized in colors: gold, silver, blue, green and red.

AIA file no 14-p-20

MFGR: IRVING GRATING CO.
Further Information Circle 137

Aluminum trim

MFGRS DESCRIPTION: a clip-on aluminum header trim designed for by-passing sliding doors offered by Stanley Hardware.

USES: sliding door installations in

products, equipment, materials

residential work.

SPECS/FEATURES: #2813 header trim provided with nylon clips. Converts mfgrs #2800 sliding door hardware sets into built-in header trim as required. Lengths packed for 4′, 5′, 6′, and 8′ openings. Sets priced $1.65-$3.05.

AIA file no 16-c

MFGR: STANLEY HARDWARE

Further Information Circle 138

Channel studs

MFGRS DESCRIPTION: Stran-Steel announces line of "Load-Bearing Punched Channel Studs" to meet demands of contemporary architecture for more versatile, light-weight steel framing.

USES: light-weight steel framing.

SPECS/FEATURES: 16 ga. studs used for exterior curtain wall, 4-hour wall, spandrel wall framing, exterior and interior load bearing walls, high bay partitions, jamb studs and archt'l treatment. Mfgrs' new brochure gives loading tables, properties, engineering data for all five sizes of channel studs, track and bridging are listed.

AIA file no 13

MFGR: STRAN-STEEL CORP.

Further Information Circle 139

Louvers

MFGRS DESCRIPTION: "Midget" louvers now available in 7 sizes ranging from 1″ through 6″.

USES: venting and control of moisture vapor.

SPECS/FEATURES: tapped into place, requiring no nails or screws. May be installed in wood, metal or concrete. Available with built-in screens and "all-weather" deflectors to control moisture, vapor, rot, corrosion, and excessive heat. Comes in chome, copper, or aluminum. Mfgr's illustrated folder on "Dead Air Danger Spots" available.

AIA file no 30-j

MFGR: MIDGET LOUVER CO.

Further Information Circle 178

Pool accessories

MFGRS DESCRIPTION: line of swimming pool deck accessories is offered in stainless steel type 304 for normal application or in Monel for salt water pools or where salt atmosphere poses corrosion problem.

USES: pool deck equipment for institutional or recreational uses.

SPECS/FEATURES: line includes ladders, diving stands, handrails and lifeguard chairs. Diving stand for institutional application meets YMCA standards. Mfgr claims products are corrosion-resistant, easy to install and can be permanently set in concrete. Equipment is packaged and includes all hardware of stainless or Monel as specified. Catalog available giving dimension tolerances, installation details. Technical information available to architects on corrosion control.

AIA file no 35-f-2

MFGR: SWAN ENGINEERING CO.

Further Information Circle 140

WINDOWS

Projected window

MFGRS DESCRIPTION: "Paragon"-projected window designed for schools, hospitals and commercial buildings.

USES: commercial and institutional buildings.

SPECS/FEATURES: sections of extruded 1⅞″ aluminum channel ⅛″ thick. Removable vents for on-job re-glazing. Variety of styles: max. of 5′-1″ x 9′-5″ to min. 1′-5″ x 2′-1″. Vents operate on adjustable-tension, nylon friction shoes. Aluminum stops permit presetting of amount of opening. Weatherstripping of bulbular polyplastic and on one plane. Screens available. Solid, white bronze hardware matches frame and vents. Snap-in beads or putty glazing.

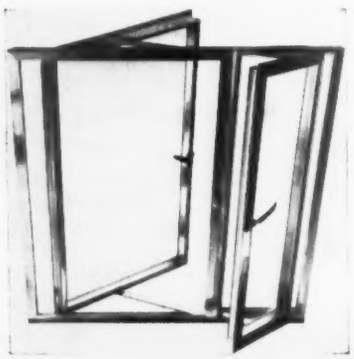
AIA file no 16-e

MFGR: PETERSON WINDOW CO.

Further Information Circle 141

Aluminum windows

MFGRS DESCRIPTION: "Economy-Range" aluminum awning windows: Model #43 (buck-type installation) and model #44 (pre-punched integral nailing fin and stucco stop).



USES: residential and other light construction.

SPECS/FEATURES: rotor operator and torque bar, vinyl weatherstripping for perimeter of frame and at bottom of vents; glazed with snap-in aluminum bead; accessible hidden adjustment; removable vents can be cleaned from the outside. Screen retainer tracks at head and sill. Extended aluminum sections furnished with etch or lacquer finish.

AIA file no 16-e

MFGR: STANLEY BUILDING SPECIALTIES CO.

Further Information Circle 142

Sliding window

MFGRS DESCRIPTION: "Penguin" medium-weight, sliding horizontal aluminum window.

USES: residential and light commercial use.

SPECS/FEATURES: flush construction making possible washing of frame and glass at same time. Muntin bars of vinyl plastic between prime and storm lights of unit. Available in vent heights to 5′. Transom window-wall unit available to 6′. Woven-fabric weatherstripped. Construction is of .062″, 6063-T5 aluminum alloy, increases to .080″ at sill section. Exposed screws of stainless steel. Mfgr claims tamper-proof locking and effortless opening.

AIA file no 16-e

MFGR: PETERSON WINDOW CORP.

Further Information Circle 143

Concrete masonry

MFGRS DESCRIPTION: "Shadowal" block offered as exposed masonry unit with "built-in" surface pattern.

USES: wall expanses in residential, commercial and institutional work.

SPECS/FEATURES: pattern is ⅜″ thick recess in modular (8″ x 8″ x 16″) block. Mfgrs claim aesthetic versatility possible. Used on exterior and interior walls. Durability, firesafeness, sound absorption stressed. Requires no finishing but may be coated with transparent waterproofing or painted.

AIA file no 10-c

MFGR: NAT'L CONCRETE MASONRY ASSOC.

Further Information Circle 144

OFFICE AIDS

Drafting film

MFGRS DESCRIPTION: Dietzgen offers "Ageproof Drafting Film" as a permanent, tear-proof drafting medium.

USES: drafting medium

SPECS/FEATURES: mfgrs lab tests: tensile strength: 20,000 psi; tensile modulus: 550,000 psi, and flex-life of 20,000 cycles. Claimed fungus-resistant, impervious to perspiration, water, and soft drink spots. Mfgr states material withstands usage that would destroy other drafting media: repeated erasures, folding and bending. Transparent, fiber-free structure is of inert Du Pont Mylar base. Developed with transparency for visual comfort and reproduction contrast. Roll lengths: 20 yds; widths: 36″, 42″, 48″. Sheets cut to specifications. Available with diazo and photo-type sensitized surfaces. Firm states prices comparable to conventional tracing cloth.

MFGR: EUGENE DIETZGEN CO.

Further Information Circle 145

Slide rule

MFGRS DESCRIPTION: Hunter Div. of R&M announces development of the "Estimator"—a slide rule for fast and accurate estimation of heat loss and cost of electrical heat operation.

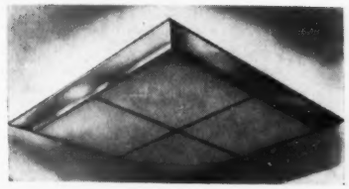
USES: by designer of electric heating systems.

SPECS/FEATURES: slide rule available to readers of A/E NEWS upon request. "Estimator" consists of two parts, one the slide rule proper and other an 8½″ x 9¼″ chart which lists outside design temperature and winter degree days for 152 U.S. cities. Points out factors in establishing evaluation of "degree of weatherproofing" in structures. Cost estimation formulae developed by Natl. Electrical Mfgrs. Assn. (NEMA).

MFGR: HUNTER DIV., ROBBINS & MYERS, INC.

Further Information Circle 146

LIGHTING



Large area luminaire

MFGRS DESCRIPTION: Smithcraft announces its "Forum" luminaire as being 35% larger than conventional units and designed for "prestige" uses.

USES: banks, insurance companies, executive offices, lobbies, etc.

SPECS/FEATURES: available in extruded etched and anodized aluminium or bronze frame. Choice of three types of shielding media: Holophane Prismalume Controlens (R) #6024, "Cubex" aluminium louvers, and plastic louvers. Holophane unit has both longitudinal and transverse light control, resulting in glare-free, shadowless illumination; "Cubex" louvers have ½″ x ½″ x ½″ cells, providing 45° x 45° shielding. Installation: surface or pendant-mounted. One piece assembly released from either side by simple finger action. On spring-activated catches. Removed by lifting, without use of tools or loose-parts. Lamping: used with 4, 6, or 8 rapid bi-pin lamps. Mfgrs literature gives photometric data, coefficients of utilization as well as installation details.

AIA file no 31-f-2

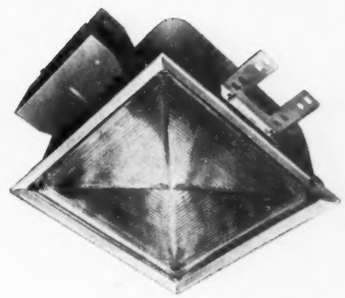
MFGR: SMITHCRAFT LIGHTING

Further Information Circle 147

Modular lighting

MFGRS DESCRIPTION: Day-Brite "Uni-frame" recessed incandescent lighting element featuring identical styling and mechanical dimensions for different wattage ratings.

USES: all types of ceiling construction including concrete slabs.



SPECS/FEATURES: seamless box requires no plaster frame. Designed to replace one 12″ sq. ceiling tile. Can be adjusted to compensate for ceiling materials of various thickness. Model no. 200 handles 100, 150 and 200 watt lamps, and model no. 300 takes 300 watt medium base lamps. Mfgr states uniform size permits continuity of ceiling area. Prism designed "Pyrex" lens: 11 5/16″ sq. Frames available: flat white enamel, anodized aluminum or brass. One-piece aluminum reflector.

AIA file no 31-f-2

MFGR: DAY-BRITE LIGHTING INC.

Further Information Circle 148

Large element lighting

MFGRS DESCRIPTION: "Large Element Lighting" by Smithcraft is announced as new technique in application of very high levels of uniform and comfortable illumination.

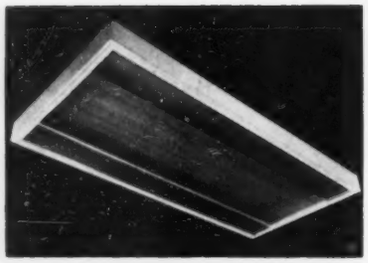
USES: commercial and institutional where effect of dropped ceiling construction is desired; used separately or assembled.

SPECS/FEATURES: modular 2′ x 2′ units and in widths 4′ x 4′ and up. Five unit sizes available permitting variety of areas and patterns. Shielding media: Smithcraft "Cubex" louvers 45° x 45° plastic louvers; polystyrene plastic dish, and Holophane Prismalume

Controlens (R). Slimline or special 800-MA rapid-start lamps (on special order). Factory assembled and prewired.

AIA file no 31-f-23

MFGR: SMITHCRAFT LIGHTING
Further Information Circle 149



Thin surface units

MFGRS DESCRIPTION: "Daylume" series by Day-Brite Lighting provides a line of thin surface mounted elements. Mfgr says units designed to meet contemporary architectural standards for surface lighting with recessed appearance.

USES: commercial and institutional.

SPECS/FEATURES: units equipped with separately fused C.B.M. ballasts. Depth: 3¼". Wired through sides, center or ends; end-to-end, side-by-side, or end-to-side installation. Recessed back plate provides alignment with ceiling. 50 models, available in six sizes: 1′ x 4′; 1′ x 8′, 2′ x 2′, 2′ x 4′, 2′ x 8′, and 4′ x 4′. Lamp arrangements: two, four, six and eight of 2′ or 4′ lamps. Separate hinges provided to allow enclosure to be hinged from either side. Wide choice of glass and plastic enclosure materials including Day-Brite plastic panels.

AIA file no 31-f-23

MFGR: DAY-BRITE LIGHTING INC.
Further Information Circle 150

Surface-mounted units

MFGRS DESCRIPTION: "Sunlux Lens Panels," added to "Visionaire" series of Sunbeam Lighting Co. for either recessed (5600) or surface mounted (6600) series of lighting fixtures. "Sunlux" is water-clear, color stabilized polystyrene lens panel with prismatic lattice pattern.

USES: commercial, industrial or institutional applications.

SPECS/FEATURES: improvements in plastic materials claimed to resist discoloration three times longer in normal use than earlier materials. Lattice structure in the surface-mounted 6600 series has continuous "hook-on" hinge. Recessed 5600 units have full-length piano hinge. Both units offer flush pressure latches.

AIA file no 31-f-2

MFGR: SUNBEAM LIGHTING CO.
Further Information Circle 151

HVAC

Electric ventilator

MFGRS DESCRIPTION: "Chromalox" automatic electric unit ventilator offered as an all-electric unit which supplies heat and natural cooling and ventilates with fresh outdoor air.

USES: typical installations include schools, churches, offices, stores, bowling alleys, auditoriums and restaurants.

SPECS/FEATURES: four models available. Ranges in air delivery: 500 cfm to 1,250 cfm. BTU/hr output range: 2,700-61,500 BTU/hr. Units designed to eliminate "stuffiness" in large rooms where people normally gather in relatively confined space, according to mfgr. Descriptive literature includes dimensions, selection and air delivery and heating capacities, controls. Mfgr also offers sample architectural specs.

AIA file no 31-k

MFGR: EDWIN L. WIEGAND CO.
Further Information Circle 152

Perimeter unit

MFGRS DECRIPTION: Lennox "Comfort Curtain" offers modular concept in perimeter forced air heating and cooling.

USES: Classroom and offices

SPECS/FEATURES: mfgr claims: system flexibility by purchasing only for immediate needs. Additions completed at any time due to modular concept of use of mfgrs components. "Bookshelf" ducts provide furniture as well as heating and cooling source. Several systems available: central, two-classroom heater, in-the-room heater and hallway unit. Systems function on occupancy cycle. Uses heat pump that compensates temperatures for heat gains from pupils, lights and sunshine days. Mfgrs literature stresses planning and operating cycle principles as well as standardization of components providing simple, local maintenance.

AIA file no 30-b-1

MFGR: LENNOX INDUSTRIES, INC.
Further Information Circle 153

PLUMBING

Universal fittings

MFGRS DESCRIPTION: the "Unitron" line of plumbing drainage products emphasizes design compactness and universal application of carriers and closet fittings for wall-hung installations.

USES: back-to-back closet installations; blow-out of syphon jet bowls or women's urinals regardless of mfgr.

SPECS/FEATURES: one universal type carrier for all wall-hung closets, whether blow-out or syphon jet fixtures; back-to-back installations possible in 8" pipe space. Carrier feet can be concealed in construction. Provided with vertical adjustment from ¾" to 3¼" to accommodate floor fill. Closet connection assembly permits 4" between face of carrier and finished wall line. Double fittings equipped with common vent. Mfgr claims no effect on water seal of opposite fixture in back-to-back installation.

AIA file no 29-b

MFGR: JOSAM MANUFACTURING CO.
Further Information Circle 154

products, equipment, materials

Adjustable cleanout

MFGRS DESCRIPTION: series Y-710 "Leveleze" cleanout, designed for installation on sewer cleanout risers, has rolled thread adjustable top which can be raised or lowered to permit floor plate to meet finished floor level.

USES: removable plug to permit draining. Internal plug provides protection against back flow from sewers in areas subject to periodic floods.

SPECS/FEATURES: cleanout body: cast iron; top: adjustable, cast iron rolled thread; cover plate: polished brass. Furnished with either identification "SAN" or "STORM" in addition to "CO."

AIA file no 29-c-31

MFGR: JOSAM MANUFACTURING CO.

Further Information Circle 155

Drainage fittings

MFGRS DESCRIPTION: Mueller Brass offer its "Style D-746" stack waste drainage fitting.

USES: plumbing systems

SPECS/FEATURES: Three inch stack waste fitting made of cast bronze. "Tee" type with the branch waste connections above the center line of the 3″ soil branch opening and are 180° apart and 90° from 3″ soil opening. Approved for use in City of Detroit for all types of application including 6-story installation with a bath on each floor on one 3″ stack. Sizes 3″ x 3″ x 1½″ x 1″ and 3″ x 3″ x 2″ x 2″.

AIA file no 29-b-4

MFGR: MUELLER BRASS CO.

Further Information Circle 156

Plumbing accessories

MFGRS DESCRIPTION: "Olsonite" seats are offered in redesigned no. 40 series.

USES: residential, industrial, commercial and institutional.

SPECS/FEATURES: mfgr states seat's ability to "take it" prerequisite for product. Heavy duty use, made of high impact polysterene, ease of maintenance stressed. Series offers 35 solid and "pearlescent" colors, "hide-a-ring" cover, color matched bumpers, low silhouette and sculptured hinge posts. Model no 95, illustrated, has open front, less cover. Models no 95 and 97 available in black or white only.

AIA file no 29-h-22

MFGR: SWEDISH CRUCIBLE STEEL CO.

Further Information Circle 157

KITCHEN UNITS

Refrigerator-griddle

MFGRS DESCRIPTION: Bastian-Blessing offers a self-contained, self-defrosting refrigerator combined with a griddle stand.

USES: restaurant and small institutional kitchen applications.

SPECS/FEATURES: Stainless steel frame and box. Refrigerator capacity available with high, low, and dual temperature models. Drawers are self-closing. Doors hinged either side. Griddle stands may use either gas or electric appliances. Laminated maple cutting board, 7½″ wide standard equipment. Provided with collared opening for up-draft or down-draft ducts upon specification. Blower switch provided. Optional features: condiment pans, ½ qt in cutting board, dry storage drawers, in some models. Height 67″, Lengths up to 7′-0″. Depth 34¼″ o.a.

AIA file no 35-c-1

MFGR: BASTIAN-BLESSING CO.

Further Information Circle 158

Coffee maker stand

MFGRS DESCRIPTION: coffee maker stand designed to provide quick extra coffee service, also hot water for tea.

USES: any commercial dining room or hospital diet kitchen.

SPECS/FEATURES: stand available in either stainless steel or formica. Furnished with drawers for teabags and storage for condiments. Shown equipped with coffee maker and "Lowerator" tubes for cups and saucers.

AIA file no 35-c-1

MFGR: JOHN VAN RANGE CO.

Further Information Circle 159

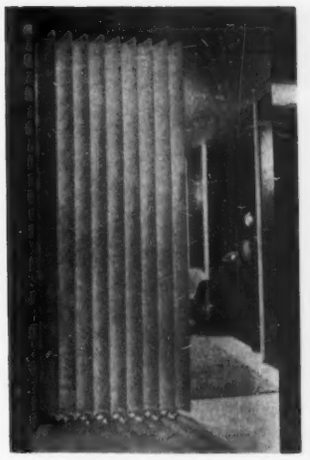
INTERIOR UNITS

Louver door

MFGRS DESCRIPTION: newly designed wood folding door with adjustable vertical louver system permits precise control of light and air.

USES: residential, commercial and institutional.

SPECS/FEATURES: door with louvers in closed position forms paneled wall. Door closed or partially closed with louvers open, forms louvered partition. Available with either left or right louver direction. Wood panels: hollow, air foil design; linked at top and bottom; overlap when closed. Overhead steel track; self-lubricating nylon wheels. No floor track. Panels may be installed separately after positioning track and top linkage. Stock doors: Philippine mahogany, satin-finished with clear lacquer, 2′-4″ to 4′-0″ high. Panels 8⅜″ wide, 1″ thick at center and ¼″ at leading edge. Retail price: $45-$65. Custom doors 2′-4″ to 24′ wide by any height up to 10′—finished or unfinished, in Philippine mahogany, birch or ash. Panels of different wood can be alternated. Custom prices slightly higher than stock doors.



AIA file no 16-m

MFGR: CONSOLIDATED GENERAL PRODUCTS, INC.

Further Information Circle 160

Gym safety cushions

MFGRS DESCRIPTION: "Vicratex VEF" vinyl fabric has found another use for product in gymnasium safety cushions.

USES: used as upholstery material.

SPECS/FEATURES: plywood panels padded with cellulose rubber and rubberized hair and covered with "Vicratex VEF" have provided colorful background to gym as well as safety function. Mfgr claims fire-resistant, ease of maintenance and acoustical absorbtion qualities for product. Mfgr makes available "School Planning Guide Book" showing recent architectural uses of product.

AIA file no 28-c

MFGR: L. E. CARPENTER & CO.

Further Information Circle 161

Nelson plastic chair

MFGRS DESCRIPTION: designed by Architect George

Nelson as an adjustable-back plastic chair.

USES: home or office.

SPECS/FEATURES: separation between back and seat units connected by polished steel tubing attached to soft-rubber shock mounts. Swagged legs form pedestal-like base. Lightweight with "give" of reclining chair. Shell colors: black, gray, & white; legs: chrome, black or white. Available in dining or lounge heights. Approx. retail price: $95; fixed back model $75.

AIA file no 28-a-5

MFGR: HERMAN MILLER FURNITURE CO.

Further Information Circle 162

Wood shade

MFGRS DESCRIPTION: "Sundor" woven wood shade is combination folding door and drapery developed for use with sliding glass doors.

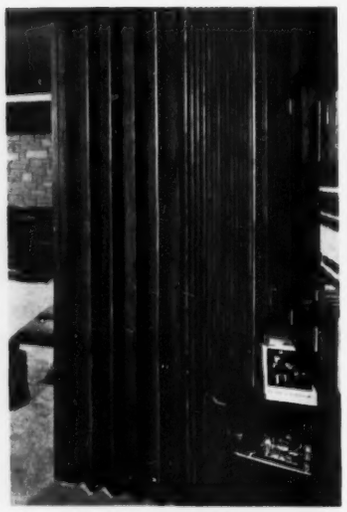
USES: door screen; sunlight and glare control; diffuse interior illumination for privacy; and as decoration.

SPECS/FEATURES: constructed from beveled basswood splints and hard-twisted fisherman's seine twine; opens from either side; operates like folding door by fingertip action; overhead track mount; fits standard 6′-8″ or 8′ sliding glass doors. Opening widths (4′, 6′, 8′ and 10′) includes 25% fullness; 12 different colors or custom finish. Priced about $2.00/sf including operating hardware and rods. Maintained by wiping with damp cloth.

AIA file no 35-p-5

MFGR: CONSOLIDATED GENERAL PROJECTS, INC.

Further Information Circle 163



Folding door veneers

MFGRS DESCRIPTION: White ash and American walnut veneers are now available on "Pella" wood folding doors in addition to present line of four veneers: Birch, oak, pine and Philippine mahogany.

USES: coordinate with commercial and residential decorative schemes and furnishings.

SPECS/FEATURES: concealing spring hinging maintains appearance of all-wood door from any angle. Mfgr claims comparatively low cost. Available in stock and custom sizes.

AIA file no 16-m

MFGR: ROLSCREEN CO.

Further Information Circle 164

Two-way slat shade

MFGRS DESCRIPTION: "Temlite Loomwood," a free-hanging, wooden slat window shade designed to be dropped from the top at the same time it is rolled up from the bottom.

USES: commercial, institutions and adaptable to residential use.

SPECS/FEATURES: woven from beveled basswood splints; adjustment method permits light control, yet shields at chair or desk level. Selection of stock colors or matched custom color. Maintenance: occasional cleaning with damp cloth. Prices vary according to size and amount of custom work. Average cost including hardware: appx: 85¢ sf. Material available with overhead, straight, curved or angular track.

AIA file no 35-p-5

MFGR: CONSOLIDATED GENERAL PRODUCTS, INC.

Further Information Circle 165

Folding door

MFGRS DESCRIPTION: "Wovynfold" door, improved low-cost folding door with performance of more expensive type is introduced.

USES: as door or room divider—commercial, residential or institutional

SPECS/FEATURES: consists of vertical mahogany slats laced together with nylon-reinforced vinyl tape. Available in grey, beige, white and natural. Twelve % additional fullness in width; folds to 12% of size in stack flush to wall, 4½″ from front to back. Nylon runners move on overhead track. Sizes: 2′-2″ x 6′-8″ to 4′-2″ x 8′-0″. Can be shortened to intermediate heights. Occasional wipe-down only required maintenance. Retail prices for stock sizes: $13.80-$33.90.

AIA file no 16-m

MFGR: AMERICAN-ACCORDIAN FOLD

Further Information Circle 166

HARDWARE

Folding panel hardware

MFGRS DESCRIPTION: Grant Corp. introduces set of folding panel hardware.

USES: designed for use in closets, passageways or storage walls, jambs or floor mounting, 2 or 4 door installations.

SPECS/FEATURES: aluminum track and nylon guides for quiet operation. #2520 set accommodates doors ¾″ to 1¾″ thickness. Parts include brass plated pulls. Track lengths: 2′-0″, 2′-6″ & 3′-0″. Bi-parting door openings of 4′-0″, 5′-0″, 6′-0″ use 2 sets.

AIA file no 27-c

MFGR: GRANT PULLEY & HARDWARE CORP.

Further Information Circle 167

Door hardware

MFGRS DESCRIPTION: Stanley Works announces its "Bi-Fold" door hardware sets to make Bi-Fold doors more functional and trouble free.

USES: residential door installations.

SPECS/FEATURES: door set #2983 has surface mounted hardware for closet applications and use with ¾″ to 1⅜″ thick plywood or particle board doors. Set #2939 has concealed hardware for passageway doors (1″-1⅜″ thick). Features: door-mounting, adjustment are one man operation. Suspended nylon guide permits smooth operation without binding, mfgr states. Track pivot sockets and jamb pivot brackets adjusted by set's wrench from either side of door facilitates ease of installation. Sets for opening widths: 2′, 2′-6″, 3′, 4′, 5′ and 6′. Available with or without pulls.

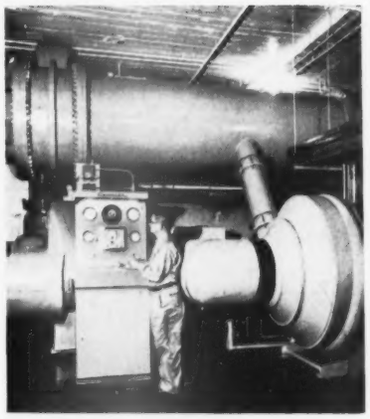
AIA file no 27-a

MFGR: STANLEY WORKS

Further Information Circle 168

products, equipment, materials

HVAC



Larger hermetic

MFGRS DESCRIPTION: Carrier announces a larger size hermetic centrifugal refrigeration machine—highest available for single compressor units.

USES: multi-story buildings and industrial plants (illustrated: Esperson Building, Houston, Tex.).

SPECS/FEATURES: addition of a sixth compressor size, raises to 52 number of combinations of components for producing cooling capacities between 90-1,500 tons. Entire range accomplished with standard parts says mfgr. Carrier cites advantages of low installation cost per ton of refrigeration capacity due to minimum electrical service required, single compressor-motor and starter, and performance. All models use voltage levels common to multi-story buildings and industrial plants. Claim lowest current in-rush. Cooling hermetic motor by passing refrigerant around and through the motor windings, plus star-delta starter connections considered safeguard against frequent starting and heavy loads. Tabular ratings available in catalog 19C-104A.

AIA file no 30-f-2

MFGR: CARRIER CORP.

Further Information Circle 169

Multi-zone AC units

MFGRS DESCRIPTION: McQuay, Inc. announces larger capacities for "Mc-Multi-Zone" air conditioners designed to heat and cool simultaneously.

USES: larger commercial & industrial installations.

SPECS/FEATURES: units designed to meet conditions where outside weather or inside requirements make it necessary to heat some sections of building while other sections require cooling. Units will furnish balanced comfort simultaneously to different areas either with filtered, cooled & dehumidified air, or with filtered, heated and humidified air, or mixture on demand. Eleven sizes avail-

able; rated: 1,370-38,000 cfm. Accessories: zone dampers, interconnecting rod, preheat steam coils, filter sections, mixing boxes & humidifiers.

AIA file no 30-f-2

MFGR: McQUAY, INC.

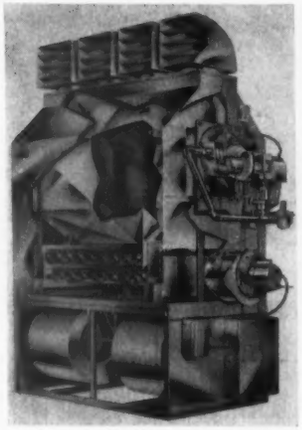
Further Information Circle 170

Heavy duty heaters

MFGRS DESCRIPTION: Lennox "AT" series of oil, gas or combination fuel burners used for space heating, make-up air, and heating and AC installations.

USES: large commercial and industrial applications.

SPECS/FEATURES: models: floor and suspended types. BTU/hr ranges: 400,000-2,000,000. Primary heat transfer surface 14 ga. no. 430 stainless steel. Gas-light (no. 2) oil or gas-heavy (no. 5) oil



burners available and interchangeable with single fuel burners. Changeover: manual or automatic. Electric control equipment complies with National Electric Code. Control circuits: 220/208/60/1 or 115/60/1. Inspection port. Mfgrs literature gives various installation conditions, with dimension tolerances, clearances, nomenclature of parts, engineering calculations, performance data and materials specifications.

AIA file no 30-b-1

MFGR: LENNOX INDUSTRIES, INC.

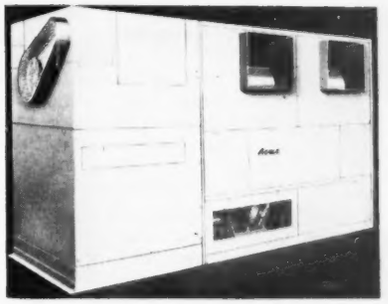
Further Information Circle 171

Packaged conditioner

MGFRS DESCRIPTION: "Acme Model PAC" packaged air conditioner is a factory assembled, packaged air cooling unit designed to provide cooled, dehumidified and filtered air.

USES: AC for stores, offices, churches and similar installations.

SPECS/FEATURES: sheet steel cabinet with system connection openings. Unit contains: hermetic compressor, a direct expansion cooling coil, water cooled condenser, a centrifugal blower, refrigerant circuit and necessary safety and operating controls. Factory complete internal wiring and piping. Installation re-



quires power, water supply and drainage connections. "PAC" capacities: 20-60 tons; other models: 3-15 tons.

AIA file no 30-f-1 and 30-f-2

MFGR: ACME INDUSTRIES

Further Information Circle 172

Gas duct heaters

MFGRS DESCRIPTION: Lennox offers "GSD1" duct heaters that can be installed in an existing duct or create zone control with several.

USES: small and large commercial and industrial installations.

SPECS/FEATURES: depth never exceeds 49" including diverter. Mfgr emphasizes: compactness, dual limit controls, flexibility of air flow arrangement. Heat exchanger of aluminized steel fires at 30,000 BTU. Silent ignition and shut down. Burner assembly of aluminized steel can be removed by several screws. Duct heater can be converted to forced air horizontal gas furnace by addition of transition shoe and blower-filter packager. BTU/hr imput ratings: 120,000-420,000. Mfgrs literature charts dimensional tolerances, specs and ratings and pipe sizings, etc.

AIA file no 30-b-6

MFGR: LENNOX INDUSTRIES, INC.

Further Information Circle 173

Advertisement

NEW INCOMBUSTIBLE GLASS FIBER CEILING BOARD

Characteristics: ULTRACOUSTIC® CEILING BOARD is a new type incombustible glass fiber acoustical ceiling board for suspended ceilings. It offers uniformity without monotony, combines the beauty of random-fissured travertine surface texture with excellent thermal and acoustical properties. Dimensionally stable, yet bends without breaking. Easy to install, easy to remove and replace for access above ceiling.

Specification Data: Incombustibility: rated Class A according to Federal Specification SS-A-118b and carries an Underwriters' Laboratory label. Sound absorption: .85 NRC. K Factor: .23 Btu at 75° mean temperature. Light reflection 85% average.

Recommended Uses: Offices, schools, restaurants, retail stores, churches, bowling alleys, display rooms, etc.

See Sweet's File 11a/Gu or write for 4-color AIA brochure today to Gustin-Bacon Manufacturing Company, 250 W. 10th St., Kansas City, Mo.

Further Information Circle 61

products, equipment, materials

MISCELLANY

Finishing material

MFGRS DESCRIPTION: other uses for, "Colorlith" an asbestos-cement material adaptable as a finish for variety of interior and exterior uses.

USES: suggested for walls, chalkboards, baseboards, spandrels, wainscoting, toilet compartments, shower stalls, sinks, fume hoods and lab table tops in commercial and institutional buildings.

SPECS/FEATURES: endurance test study for mfgr by Architect Harold C. Bernhard reveals versatility of product use. Product formerly confined to lab table tops may be used in variety of ways. Product is mixture of Portland cement and asbestos fibers combined with chemically resistant colorings and fillings; then subjected to hydraulic pressure to form dense, homogeneous sheet. Sheet polished to smoothness yet retains soft textured appearance. Material machined with metal working tools. Mfgr claims resistant to most common acids and alkalies. Wiping vinyl finish for table top maintenance; for wainscoting and sill maintenance: good grade of clear, non-yellowing wax or coating of cellulose acetate butyrate (C.A.B.). Sheet sizes: 4′ x 8′; thicknesses: ¼″, ⅜″, ½″, ¾″, 1″ and 1¼″. Mfgrs colors: charcoal gray, red cameo brown, light cool surf green.

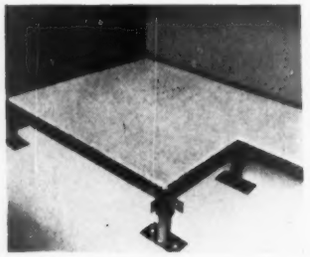
AIA file no 23-g

MFGR: JOHNS-MANVILLE CORP.

Further Information Circle 174

Elevated flooring system

MFGRS DESCRIPTION: elevated flooring system that may be permanent, removed or reassembled is offered by Armorply Div. of U. S. Plywood.



USES: designed for use with data processing systems and other heavy electronic equipment requiring under-floor power cables or connectors.

SPEC/FEATURES: flooring material: U. S. Plywood's "Armorply" —a plywood panel to each side of which a sheet of 24 ga. zinc-coated steel has been laminated. Metal claimed rust-resistant. Flexible floor tile may be applied at either factory or on job. Panels supported by telescoping pedestal mounts and joined with nuts for leveling. Under-floor space, housing cables necessary for electronic equipment. can be used as plenum chamber for conditioning air under machines. Each panel removable for ease of cable access and maintenance. Mfgr says: panels remain flat under varying atmospheric conditions and have high impact strength. Units provide planning flexibility as changes are required. Panel size ranges: 1′ x 2′ to 4′ x 12′.

AIA file no 23-b

MFGR: ARMORPLY DIV., U. S. PLYWOOD CORP.

Further Information Circle 175

Water-repellent fill

MFGRS DESCRIPTION: "Zonolite Block and Cavity Fill Insulation" is a free-flowing granular mineral (vermiculite) treated and processed to provide high degree of water repellency and resistance to moisture penetration by masonry units.

USES: to fill cores and cavities in concrete block and tile walls. Commercial and industrial buildings, schools, churches, and residences.

SPECS/FEATURES: mfgr claims 50% reduction in heat transfer and subsequent heating and cooling costs and sizing of mechanical equipment. Poured on job into completed block core sections. Claims advantages of ease of insulation without bridging. Mfgr recommends vapor barrier application. Provides data sheet with "u" factors, "comfort" research, specifications, and comparative information on AC and fuel costs.

AIA file no 37-c-2

MFGR: ZONOLITE CO.

Further Information Circle 176

Ballasts

MFGRS DESCRIPTION: GE announces a series of ballast designs for operation at reduced case temperatures.

USES: fluorescent lighting installations.

SPECS/FEATURES: Ballast 89G964-65 operates at 118 v; comparable units designed for 208 and 236 volt systems and operate at less than 90° C without use of heat radiators. Models 89G908 and 89G909 designed for low-brightness residential uses; low-power factor units for use on 118 v, 60 cycle circuits; listed by U.L. Ballast 89G925 designed with 14°C lower case temperature. Lightweight ballast 6G1020 for two 40 w-T12 R.S. lamps operate at 90°C below hot spot in any enclosed four lamp surface mounted fixture on an acoustical tile ceiling.

AIE file no 31-b

MFGR: GENERAL ELECTRIC

Further Information Circle 177

THE ANATOMY OF A NEW PROJECT

preview:1

CONVENTION ARENA—COBO HALL — *project*
CIVIC CENTER COMMISSION—CITY OF DETROIT — *client*
GIFFELS & ROSETTI — *architects/engineers*

General description:

THE CITY OF DETROIT will have the largest building of its kind in the world upon completion in 1960 of the Cobo Hall and Convention Arena. For our readers we are presenting a statistical review of this new structure:

THE COBO HALL and CONVENTION ARENA will cover 17 acres of land area and provides 51 acres of floor space. The Civic Center Commission of Detroit believes that this facility will provide the Motor City with unequaled facilities for national shows, conventions, civic affairs, festivals, and recreational and amateur sports events.

COBO HALL with 1.6 million sf of usable area will occupy 10 of the 17 acres. Principal accommodations of this section are four 100,000 sf exhibition areas, three of which can be combined into one vast hall by retraction of separating partitions into the roof construction; 32 meeting rooms, a banquet room, cafeteria, coffee shop, and 90,000 sf of storage space. Ramps, stairs, elevators, and escalators will serve the Hall.

THE MEETING ROOMS range in capacities from 80 to 1,050 persons. Seating 3,000, the banquet room is also adaptable for meeting purposes, with a capacity of 5,000. The cafeteria will seat 2,000.

COBO HALL'S DISTRIBUTION SYSTEMS will be built into the floor at close intervals, and will provide all forseeable mechanical and electrical services for the exhibitors; features include: 10,000 KVA of available power and telephone service comparable for a city of 8,000 population.

THE ARENA section, circular in form, has a maximum seating capacity of 14,000. It is 315 ft in diameter and approximately 100 ft high.

PARKING SPACE for 3,000 cars will be provided.

General structural information:

Building piles are pre-drilled, step-tapered, cast in place, end bearing, driven to hard pan or rock. The lower 30′ of the shells are 12″ pipe. This pipe section and the corrugated upper portion of the piles are filled with 4,000 psi concrete. Hidden underground obstructions, such as abandoned docks, retaining walls, wood piles and sewer lines required many variations from initial pile designs.

The 60′ x 60′ bays in the floor system for Exhibit Hall "C" are designed for continuity in both directions, and composite action of the slabs and framing, provided by welded stud shear connectors. Lightweight structural concrete is used in these areas.

DESIGN FLOOR LOADS: 1,000 psf on 8″ slab
300 psf on full area, to 36″ WF beams 10′ oc
200 psf on full area, to 36″ WF double girders @ 60′ oc

High strength steel is used for the double girders. The design also provides for alternate loading with up to 80 tons distributed over limited areas.

The typical center span of roof trusses over the exhibit area is a 180′ long by 20′ deep, 80-ton truss suspended at each end by 2-12″ x 1¼″ links connected by 4″ diameter pins to 30′ cantilever trusses. Reaction at the end of the cantilever is 600 k. Cantilever trusses in turn are supported by main carrying trusses spanning 120′ between main roof columns. Main roof columns weigh 42 tons each, and support maximum of 5,250 k. One roof column, carrying 4,000 k is supported on three high-strength steel girders spanning 60′ over the depressed highway.

Radial trusses in Convention Arena span 315′ and are 30′ deep in the center. Top and bottom splice plates 1½″ thick x 15′-3″ dia. at the center hub, ASTM Grade B, Fire Box Steel, of 80-100 ksi ultimate strength. Temporary erection tower supporting these trusses will not be removed until the lower level of the Arena seating framing is completed.

Field connections for both buildings are made with 400,000 high tensile bolts. Quality control of field connections provided by a qualified testing laboratory through inspection of completed connections and bolt tightening equipment.

Concrete construction in civic center: Cobo Hall

Main roof, parking area: Lightweight structural concrete on permanent metal deck insulated with asphalt bound perlite ("All-weather Crete"), topped with an asphalt block wearing surface.

DESIGN LIVE LOAD: 75 psf or two 5 k concentrated loads 5 ft apart for heliport loads.

CONCRETE STRENGTH: 3000 psi @ 28 days.

Main exhibit floor:

CONCRETE PORTION: 12″ flat slab construction with drops and caps (regular concrete)

DESIGN LIVE LOAD: 400 psf or 80 ton concentrated in 8′ x 10′ area plus 100 psf on balance of bay area.

BAY SIZE: 30′ x 5.0′ approx.

The north bay is cantilevered 17′-0″ and supports nominal floor load, exterior wall, and roof above it. Extra heavy chair bars and accessories used to support top steel in this cantilever. Cantilevered slab varies in thickness from 24″ at haunch to 6″ at free edge.

CONCRETE STRENGTH: 3750 psi @ 28 days—max. density 100 lb/cu ft

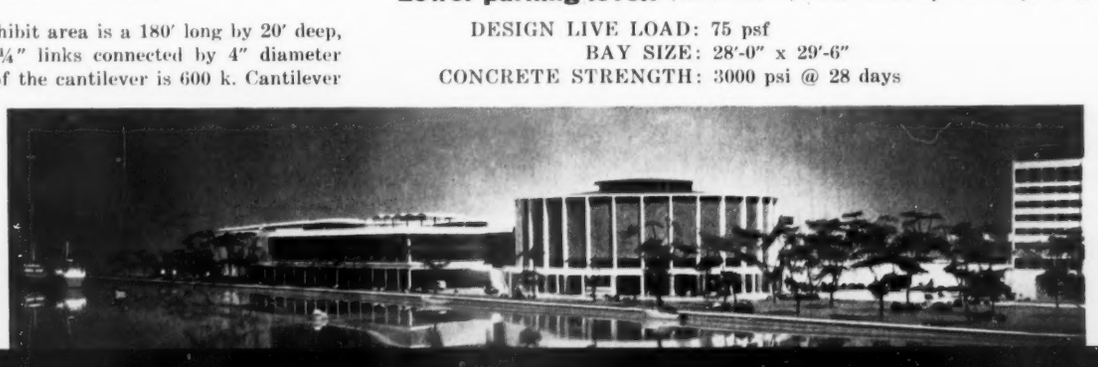
STEEL FRAMED PORTION: 8″ lightweight structural concrete slab continuous over 10′ spans, designed for composite action with structural steel framing.

Meeting and banquet hall floor and roof: Lightweight concrete joist construction in 30′-0″ spans, supported by steel framing.

DESIGN LIVE LOAD: 100 psf
CONCRETE STRENGTH: 3000 psi @ 28 days

Lower parking level: (Elev. 111′0″) : 9½″ flat slap with caps (regular concrete)

DESIGN LIVE LOAD: 75 psf
BAY SIZE: 28′-0″ x 29′-6″
CONCRETE STRENGTH: 3000 psi @ 28 days



Concrete construction in Convention Arena:

Concrete fill will be used in steel pan balcony seats. Lower level of arena seats will be poured-in-place regular concrete-3000 psi @ 28 days.

ARENA FLOOR: Designed for refrigeration to accommodate ice skating and hockey games:

Concrete construction in Convention Arena garage:

Roof: 16" flat slab with drops and caps (regular concrete)

DESIGN LIVE LOAD: H20-S16 loading or 600 psf uniform load due to 200 lb live load plus 4" of earth fill

CONCRETE STRENGTH: 3000 psi @ 28 days
BAY SIZE: 28' x 30'

First parking level: 10" flat slab with caps (regular concrete)

DESIGN LIVE LOAD: 75 psf
CONCRETE STRENGTH: 3000 psi @ 28 days
BAY SIZE: 28' x 30'

Foundation for arena garage: inverted flat slab 24" thick with 42" thick drops (regular concrete). Ultimate design theory was used for axial loads and combined bending on columns to maintain minimum column sizes due to parking restrictions.

DESIGN SOIL PRESSURE: 2000 psf
CONCRETE STRENGTH: 3000 psi @ 28 days
BAY SIZE: 28' x 30'

Construction data: helical ramp to main roof of Cobo Hall:

Steel frame with concrete deck (3750 psi) and cantilever span varying from 17'-0" to 20'-0" with electrical radiant heating system placed in 1½" wearing surface. Ramp elevates approximately 42'-0" in 2¼ turns, and is superelevated 2'-0" in 45'-0" of width.

Structural quantities: (excluding adjacent road and bridge work):

PILING (60 & 100 ton capacity):	4500 (appx. :90'-length)
CONCRETE in PILES & CAPS:	26,000 cu yds
TOTAL REGULAR CONCRETE (superstructure):	74,000 cu yds
TOTAL LIGHTWEIGHT CONCRETE:	16,000 cu yds
TOTAL CONCRETE:	116,000 cu yds
TOTAL REINF. STEEL:	7,200 tons

Structural steel:

COBO HALL:	15,000 tons
CONVENTION ARENA:	3,260 tons
RAMP & BRIDGE:	1,340 tons
Total structural steel:	19,600 tons

Project's latest estimated construction cost: $44,582,755.00

Gross utilized floor space: 2,220,490 sf (includes Arena Building, Garages, etc.)

Approximate cost per square foot: (to date): $20.08

literature

Literature cited in this department is available from various manufacturers and associations free of charge. To obtain copies, circle the keyed numbers on the reader service card.

HANDBOOKS

Copper, brass, bronze

Revised edition of handbook on copper, brass, and bronze maintenance, cleaning, finishing and coloring is available from the Copper and Brass Research Association. Methods of inspection, electroplating, coloring, are a few of many valuable technical topics covered in this manual. (30 p.)

AIA file no 15-b

ASSOC: COPPER AND BRASS RESEARCH ASSOC.

Further Information Circle 201

Lath specs

A booklet entitled, "Specifications for Metal Lathing and Furring" is available from the Metal Lath Manufacturers Association. Technical points referred to are specs for solid and hollow partitions, wall furring, lathing to wood, contact, furred and suspended ceilings; beam and column protection for fireproofing and reinforcing for exterior stucco. Tables given summarize spans and spacings for metal lath and plaster ceilings. Page devoted to fire-resistive ratings. (20 p.)

AIA file no 20-b

ASSOC: METAL LATH MFGRS ASSOC.

Further Information Circle 202

Metal lath

Metal Lath Mfgrs Association offers in their bound catalog of technical bulletins details for partitions, ceiling, fireproofings and for stucco. Bulletins are indexed and cover wide variety of pertinent subjects: sound-insulation, types of metal lath and uses, fire-resistive ratings, furring practices, specifications check list, details, etc. (98 p.)

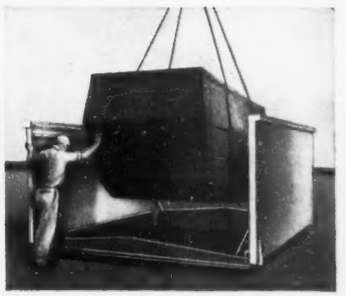
AIA file no 20-b-1

ASSOC: METAL LATH MFGRS ASSOC.

Further Information Circle 203

Neat and trim in appearance, Bilco Roof Scuttles remain "out of sightline" when installed, feature full welded corners, integral capflashing and neoprene draft seals – are weathertight, permanent.

Whether for ladder access, shown at left, for steep or normal stairs, as above, the extra-sturdy construction of rugged Bilco Roof Scuttles assures long-lasting, economical service, true dependability.

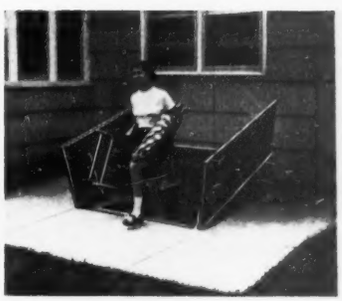


The double-leaf type D Bilco Roof Scuttle is ideal for the placement and removal of large equipment through the roof. Compression spring operators afford smooth, effortless one man operation.

Apace with Architecture...

Double or single-leaf Bilco sidewalk or floor doors combine rugged heavy duty construction with built-in, easy-operating lift springs; are completely watertight and fully reinforced for durability.

The door that matches the floor! Bilco's type T flush floor door has a smooth plate surface, strips of extruded aluminum molding along the frame and leaf to receive composition floor covering.



Designed to complement every architectural style, the modern all-steel Bilco Basement Door is very easily installed, permanent. Provides the safety and convenience of direct access to the basement.

* The demands of today's architecture have brought about radical changes in the design and construction of doors for horizontal access. To serve the architect in his practical approach to access problems, the Bilco Company has pioneered the application of built-in springs for effortless operation and the use of new materials for lifelong, trouble-free service. Wherever horizontal access is required, a Bilco product will do th job better.

See our catalog in Sweet's or write for catalog A.I.A. File 12P

THE BILCO COMPANY, DEPARTMENT A-11, NEW HAVEN 5, CONNECTICUT

Bilco®

DOORS FOR SPECIAL SERVICES

Further Information Circle 62

literature

Rating code

The Steel Boiler Institute offers its rating code for steel boilers. Imput and BTU rating tables, stock dimensions, connections, calculations and rating procedures are given. (32 p.)

AIA file no 30-c

ASSOC: STEEL BOILER INSTITUTE
Further Information Circle 204

Structural data

1959 edition of standard specifications and load tables are given for open web steel joists by the Steel Joist Institute in their new catalog. Covers the technical ground of engineering data, fire resistance ratings, load and spacing tables and a recommended Code of Standard Practice. (36 p.)

AIA file no 13-g

ASSOC: STEEL JOIST INSTITUTE
Further Information Circle 205

CURTAIN WALLS

Curtain walls

1959 edition of Erie Enameling Company's technical bulletin gives data on mfgr's curtain wall and veneer panels. Details, illustrated case histories and specifications are included for both types. (12 p.)

AIA file no 17-a

MFGR: ERIE ENAMELING CO.
Further Information Circle 206

Metal curtain walls

1959 Catalogue on insulated metal curtain walls and underwriters' rated fire walls is offered by R. C. Mahon Co. Catalog describes materials, construction, thermal properties. Specifications and typical construction details given. (16 p.)

AIA file no 17-a

MFGR: R. C. MAHON CO.
Further Information Circle 207

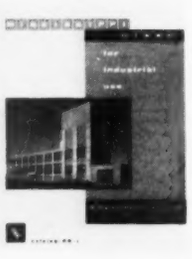
GLASS

1959 catalog #59-R of Mississippi Glass now available; advantages, diffusion data, choices available, dimension tolerances, installation details given; selection of types for applied decorative or structural decorative uses discussed. Illustrated and diagrammed uses. (12 p.)

AIA file no 26a-3-5-6

MFGR: MISSISSIPPI GLASS CO.
Further Information Circle 208

1959 catalog 59-1 available from Mississippi Glass Co. Manual illustrates and indexes advantages and functions of figured glass; light distribution properties, selection of types for diffusion, fire ratings of wire glass, installation details and dimension tolerances given. (12 p.)



AIA file no 26a-3-5-6

MFGR: MISSISSIPPI GLASS CO.
Further Information Circle 209

1959 catalog #59-G by Mississippi Glass Company now available. Illustrates variety of specifically applied uses. Recommendations made for various types of glazing for schoolroom use as well as others. Discussion of heat absorption, light transmission and direction, and diffusion qualities. Method illustrated on pp. 6 and 7 for determination of light distribution properties. Details and dimension tolerances given. (20 p.)

AIA file no 26a-3-5

MFGR: MISSISSIPPI GLASS CO.
Further Information Circle 210

STRUCTURAL UNITS

"Electro-channel" joists

A manual on construction with "Electro-Channel" steel joists has been prepared by Ceco. Series of photos and diagrams show how underfloor electrification can be achieved at low cost, using "E/C" joists. This unit is essentially standard open-web joist, but with steel raceway substituted for usual top chord. Raceway serves both as electrical distribution duct and structural member. "E/C" units have same load-bearing capacities as standard joists. Cost for construction of electrified floors given at about 50¢ per sf over cost of standard steel joist floor. (26 p.)

AIA file no 13-g

MFGR: CECO STEEL PRODUCTS CORP.
Further Information Circle 211

Metal floors

1959 R. C. Mahon catalog M-59 on structural "Cel-Beam" sections for electrified sub-floor construction available. Sections, raceway capacities, engineering data, property and load tables, framing details given. Information on electrification and welding procedures. (16 p.)

AIA file no 17-a

MFGR: R. C. MAHON CO.
Further Information Circle 212

INSULATION

Insulating cement

Technical bulletin gives information on "Cominco" insulating cement. Recommended for high temperature insulation of boilers, ovens, ducts, headers, turbines, valves, piping, kettles, heat exchangers, storage tanks and other industrial equipment. Information also provided on grades, methods of application, recommended thicknesses, and thermal conductivity ratings. (4 p.)

AIA file no 37-d-3

MFGR: U.S. MINERAL WOOL CO.
Further Information Circle 213

Insulating concrete

A series of specification sheets on systems of lightweight roof construction has been released by Zonolite, Chicago vermiculite producers. In addition to specifications, file contains properties, physical data, and diagrammatic drawings on seven Zonolite systems. Included are pre-cast insulating roof-tile, galvanized metal decks, paper-backed lath, structural concrete, and various formboard systems. Thermal properties and ASHAE ratings included. (24 p.)

AIA file nos 4-e-13 & 37-b-2

MFGR: ZONOLITE CO.
Further Information Circle 214

Low temperature spaces

Pittsburgh-Corning offers catalog on use of "Foamglas" for low temperature space installations (minus 50°F to plus 50°F). Materials covered are

physical properties, installation and detail recommendations, sizing and specification. Table of adhesives, sealers and finishes also given. Carefully illustrated with details and photos. (18 p.)

AIA file no 37-b

MFGR: PITTSBURGH-CORNING CORP.
Further Information Circle 215

Building Insulation

Architectural data on "Foamglas" building insulation available. Physical properties, applications in a variety of construction uses, accessories, and technical data given. Heat transmission ("U") values charted. Well illustrated by photos and details. (24 p.)

AIA file no 37-b

MFGR: PITTSBURGH-CORNING CORP.
Further Information Circle 216

LIGHTING

Lighting

Lighting Dynamics presents its catalog and covers shielded, unshielded commercial, industrial, special type and recessed fixtures. Photometric data presented calculated by ZONAL interflectance method. Includes graphic presentation on principles of lighting. Catalog designed for lasting reference: features Dewey decimal system of pagination to enable user to add pages in correct sequence. Books are numbered so owners receive automatic distribution of new material. Loose-leaf multi-ring binding. (168 p.)

AIA file no 31-f-2

MFGR: LIGHTING DYNAMICS

Further Information Circle 217

Lighting catalog

Fluorescent, incandescent and floodlighting fixtures are illustrated and described in Electro Lighting's catalog. Illustrations, descriptions, dimensional data, lighting curves, and other information given on fixtures for commercial, industrial and outdoor use. (112 p.)

AIA file no 31-f-2

MFGR: ELECTRO LIGHTING CORP.
Further Information Circle 218

Modular troffers

Lightolier offers its brochure #25 on 2'x4' and 2'x2' modular troffers. Three frameless diffusers with hidden hinges are described and carefully detailed. Troffer units designed to fit most new suspended ceiling construction: exposed grid, exposed spline, snap-in metal pan, exposed panel, concealed mechanical suspension and plaster. Photometric data, assembly details and installation procedures are comprehensively rendered. (20 p.)

AIA file no 31-f-23

MFGR: LIGHTOLIER
Further Information Circle 219

Troffers

Smithcraft announces its literature for its "Slendex Troffer" and the "Slendex" surface-mounted units. Literature supplements mfgr's catalog. Particular emphasis is given to the troffer which recesses only 1-3/8". Mfgr points out its use in acute ceiling space conditions, low ceilings, and in minimum cavities. Lighting characteristics, mounting and maintenance details, ordering information, dimensions, photometric data, coefficients of utilization and specifications are included. (8 p.)

AIA file no 31-f-2

MFGR: SMITHCRAFT LIGHTING
Further Information Circle 220

TV & theater lighting

Lumitron offers its portfolio of engineering, illustrative, and handbook data for lighting control systems for stage and television. This publication contains series of materials on highly specialized electrical control devices and systems. Dimming, pre-set, patch panel units specified and illustrated. (24 p.)

AIA file no 31-d-22

MFGR: METROPOLITAN ELECTRIC MFG. CO.
Further Information Circle 221

WOOD

Wood construction

Rilco catalog on applications of its glued laminated wood arches, beams and trusses to the construction of modern economical schools. Construction costs discussed. Well illustrated. (8 p.)

AIA file no 19-b-3

MFGR: RILCO LAMINATED PRODUCTS
Further Information Circle 222

Laminated wood

Rilco catalog describes its glued laminated wood structural products. Technical data, connection details, and specifications given. Illustrations show laminated wood arches, beams, and trusses in variety of building types. (24 p.)

AIA file no 19-b-3

MFGR: RILCO LAMINATED PRODUCTS
Further Information Circle 223

Redwood file

California Redwood Association issues its "Architect's Redwood File". Material deals with properties and uses of redwood, grades, and patterns, home, industrial, and school uses. Methods and specifications for finishing, fire-retarding and fastening included. Profusely illustrated with photos and details. (53 p.)

AIA file no 19-a

ASSOC: CALIFORNIA REDWOOD ASSOC.
Further Information Circle 224

ALUMINUM UNITS

Sliding glass doors

Three color catalog gives information on 2 aluminum lines of Miller Sliding Glass Door Co. Shows #250 series for single glazing, and #1000 series which permits interchangeable glazing. Catalog illustrates "water infiltration test" for product. Removable half-size detail sheet. Suggested specification data. Work of several well-known architects illustrated. (8 p.)

AIA file no 16-e

MFGR: MILLER SLIDING GLASS DOOR CO.
Further Information Circle 225

Store fronts

Brasco offers its catalog of store front details with visual index sheets for quick reference to complete line. Numerical index, specifications and full, half, and quarter size details given in fold-out loose-leaf sheets. Presented in portfolio form. (36 p.)

AIA file no 26-d

MFGR: BRASCO MFG. CO.
Further Information Circle 226

Aluminum alloys

Kaiser Aluminum offers its catalog on aluminum alloys. Characteristics and properties, classifications and selection tables, color-match charts, embossing methods are shown. Extrusions, construction details and sections and specifications are included. (24 p.)

AIA file no 15-j

MFGR: KAISER ALUMINUM
Further Information Circle 227

Aluminum entrances

Brasco offers its catalog on entrance construction details. Portfolio of loose-leaf sheets give data on various quality ranges; miscellaneous frame mouldings, hardware and specifications. Included are fold-out quarter, half, and full size detail and section sheets. (24 p.)

AIA file no 16-e

MFGR: BRASCO MFG. CO.
Further Information Circle 228

Awning windows

Aluminum awning windows for use in all types of residential construction described in Ceco's bulletin #6040. Descriptions and listings of

types and sizes included for awning windows, which meet requirements of AWMA "A-A1" specifications. Typical half-size details reproduced. Installation details shown for differing construction methods. Hardware weather-stripping, vents described. (4 p.)

AIA file no 16-e

MFGR: CECO STEEL PRODUCTS CO.
Further Information Circle 229

MARBLE

Marble veneer

Marble Institute of America offers in durable cover catalog which sets forth American standard specifications for the support, anchorage and protection of exterior marble veneer of 2" and less and exterior marble used in curtain or panel walls. Series of carefully prepared detail plates presented for various types of building uses. Spiral-bound. (24 p.)

AIA file no 8-b-1

ASSOC: MARBLE INSTITUTE OF AMERICA
Further Information Circle 230

Marble details

Marble Institute of America offers series of catalogs dealing with various applications of this classic material. Among interesting monographs available are selected details by Philip Johnson and Van der Rohe for Seagram Building (#1) and Eggers and Higgins, Mutual Benefit Life Building (#2). Details and photos presented. (4 p. ea.)

AIA file no 8-b-1

ASSOC: MARBLE INSTITUTE OF AMERICA
Further Information Circle 231

Marble specs

Marble Institute of America offers in a durable cover, spiral bound catalog specifications for marble. Classifications, interior uses among material covered. Scale detail plates are included. Carefully prepared, makes intelligent reference sources on material. (35 p.)

AIA file no 22-a

ASSOC: MARBLE INSTITUTE OF AMERICA
Further Information Circle 232

FLOORS

Terrazzo & mosaics

An information kit on the uses of standard and specialized terrazzo as well as mosaics is available from the National Terrazzo and Mosaic Association. Technical data covers varied applications including conductive flooring, outdoor and radiant heating uses. Construction details and specifications for various building types included. (38 p.)

AIA file no 23-e

ASSOC: NATL TERRAZZO & MOSAIC ASSOC.
Further Information Circle 233

Asphalt tile

An asphalt tile "Color Classification Chart" issued this year by the Asphalt and Vinyl Asbestos Tile Institute gives a color comparison chart in tabular form for three textures: marble, terrazzo, and cork. Serves as a guide to commercial equivalents produced by 8 leading mfgrs. (4 p.)

AIA file no 23-g

ASSOC: ASPHALT TILE & VINYL ASBESTOS INSTITUTE
Further Information Circle 234

Floor preparations

Floor treatments for every type of floor—concrete, wood, terrazzo, asphalt, vinyl, clay tile, etc.,—are detailed in Hillyard Chemical Co.'s portfolio of hole-punched technical file inserts. Materials provide reference for preparation of specification. (40 p.)

AIA file no 25-g

MFG: HILLYARD CHEMICAL CO.
Further Information Circle 235

STRUCTURE

Steel deck

1959 R. C. Mahon catalog D-59 on steel deck for roofs, sidewalls, partitions, ceiling and floors available. Specifications, methods of installation, construction details, load tables and engineering data for above uses discussed and illustrated. (16 p.)

AIA file no 12-c

MFGR: R. C. MAHON CO.
Further Information Circle 236

Long span steel decks

1959 R. C. Mahon catalog LSD-59 on long span "M-decks" available. Functional components of roof construction, ceiling effects, recessed lighting, section properties, acoustical and sound absorption capacities discussed and illustrated. Engineering data, property and load tables, specifications and construction details also given. (16 p.)

AIA file no 12-c

MFGR: R. C. MAHON CO.
Further Information Circle 237

Steeldome construction

Steeldomes, rigid, deep-drawn, one piece units for use in forming "waffle-type" 2 way dome slab construction are described in catalog published by Ceco. Manual contains tabular data covering sizes available and voids created. Erection procedures, typical arrangements discussed and illustrated. Table of design factors abstracted from CRSI's design handbook. (16 p.)

AIA file no 4-e-6

MFGR: CECO STEEL PRODUCTS CORP.
Further Information Circle 238

Acoustical & troffer forms

1959 R. C. Mahon catalog #AT-59 available on acoustical and troffer forms for concrete joist and slab construction. Acoustical treatment, engineering data, selection of forms, section properties, specifications and construction details discussed and illustrated. (8 p.)

AIA file no 4-d-2

MFGR: R. C. MAHON CO.
Further Information Circle 239

STEEL UNITS

Steel lockers

Catalog describing steel storage lockers is available from Penco Metal Products. Designated as Bulletin B-60, it describes and illustrates 12 locker styles. Tables used to show available sizes. Each model illustrated. Locker eliminates door handles by using heavy-duty key to operate latching mechanism. (8 p.)

AIA file no 35-f-1

MFGR: PENCO METAL PRODUCTS
Further Information Circle 240

Rolling steel doors

1959 R. C. Mahon catalog G-59 on rolling steel doors, grilles and shutters available. Specifications given. Construction details for hand, mechanically, and power operated units shown. Underwriter ratings for products given. (16 p.)

AIA file no 16-d

MFGR: R. C. MAHON CO.
Further Information Circle 241

literature

MISCELLANY

Random bond system

Whitacre-Greer Fireproofing Co. offers a manual that discusses and explains the company's "Random Bond" masonry system. Pocket-size manual explains how system functions within requirements of modular co-ordination. Manual discusses laying procedures, cost of laying, and system's limitations. Specifications are given. 3 pages of photos show typical buildings using system. ASTM specs, color ranges, bonding units given. (12 p.)

AIA file no 3-f-1

MFGR: WHITACRE-GREER FIREPROOFING CO.
Further Information Circle 242

Decorative coating

L. Sonneborn Sons offer their brochure outlining the properties and advantages of "Hydrocide Colorcoat". Product is a heavy-bodied, textured decorative coating for exterior masonry walls above grade; describes how material can be used for interior masonry surfaces on new and existing construction. Color chips are used to illustrate each of ten colors as well as resulting textures. Application, specification, and coverage data designed to provide information necessary to select and apply with brush, roller or spray. (4 p.)

AIA file no 25-d

MFGR: L. SONNEBORN SONS, INC.
Further Information Circle 243

Sealing & caulking compounds

Presstite offers its folio of technical data sheets on firm's various sealing and caulking compounds; elastic compounds, glazing compounds, vapor barriers, oil resistant and plastic sealants, etc. Data sheets give applied uses, descriptions, composition, characteristics, use precautions, methods of application and descriptive and recommended-use information. Materials hole-punched for loose-leaf notebook filing. Covers reports issued in past 3 years. (52 p.)

AIA file no 7-d or 26-b-2

MFGR: PRESSTITE-KEYSTONE CO.
Further Information Circle 244

names

JOHN NOBLE RICHARDS, FAIA

Strikingly youthful, a responsive smile and a man-size handshake are the immediate, evident qualities of 54-year old John Noble Richards. Radiating the warmth typical of the mid-western expansiveness of character, Richards is admirably equipped with the stamina necessary for a whirlwind schedule of meetings and conferences as the newly elected president of the American Institute of Architects.

Dedicated to the profession, Richards gives living expression to his credo of "service to society." Before his election, he had earned a reputation as a powerhouse of activity, devoting countless hours to many civic functions in addition to his professional work as senior partner of Bellman, Gillett and Richards of Toledo, Ohio.

"I believe that to practice architecture means to devote loving care not just to buildings, but also to people; not just to community planning, but also to our communities," he recently told an AIA audience. "To practice architecture means to practice good citizenship in the broadest and most enlightened and most constructive sense."

Many honors and citations attest to the fulfillment of his stated ideals. Among the tributes to his public service is the Toledo Chamber of Commerce's Achievement award. His scope of activities includes the Toledo Building Congress, Maumee Board of Education, the Toledo Regional Planning Assn., the Downtown Exchange Club, the Zoological Society, the YMCA, the Toledo Repertoire Theatre and his church.

As an architect, Richards might be termed a "practical idealist" whose concern for the wishes of his client equals his concern for principle. This dynamic approach gained him prominence in his work for the AIA. As president of the Toledo chapter, he was known for his tenacity in seeing that things "get done." Representing the Great Lakes district on the AIA's board of directors, he advanced to Fellowship in the Institute in 1954 and became vice president the following year.

A native of Toledo, where he has lived since childhood, Richards attended the University of Pennsylvania. There he received the Cret Medal for excellence in architectural design in his junior year. Upon graduation in 1930, Richards traveled and studied in Europe as the recipient of the coveted Stewardson traveling scholarship. Gaining experience in Philadelphia offices, he returned to Toledo in 1932 as a designer for the architectural and engineering firm he now heads.

Despite the rigorous regimen of professional, civic and institute activities, Richards finds time for a creative moment. Often he will stray from the conference hotel to some point of interest where he sandwiches in a water color sketch between meetings.

Sharing his artistic and community interests is his wife, Norma Hayes Richards, who has established considerable renown in her own right as a television personality and producer of her own "back-yard" theatre. Mr. Richards designs the

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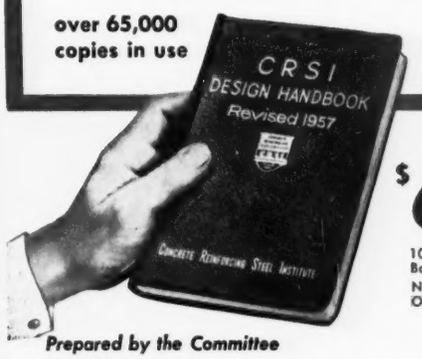

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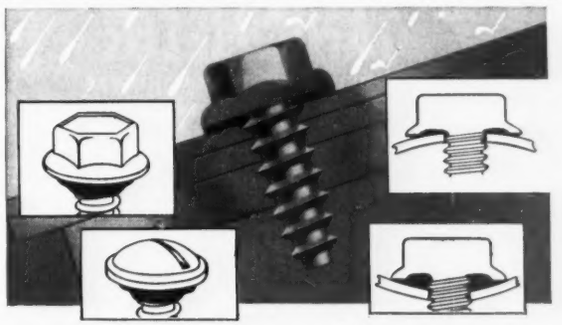
Further Information Circle 63



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Further Information Circle 66

names

stage settings for her theatrical offerings.

In serious moments, Richards sees his profession and its organization—the AIA—confronted with an unprecedented challenge. "The architect must harness the new technology and subordinate it to that search for beauty and spiritual truth we call art," he said. "He must bring artistic unity and human order into the unnatural chaos of the machine age."

This challenge, Richards believes, requires close cooperation and real understanding between the architect and the engineer in which "each must carefully preserve his professional identity to give his best."

Optimistic about the future of the profession, the AIA president adds, "fortunately, unprecedented material opportunity coincides with the intellectual challenge we face. For America's building industry the recent slow-down or recession seems to be over. 1959 promises to catch up if not surpass the best record years. Responsible forecasts speak of a massive $600 billion worth of building over the next ten years.

"There'll be plenty to do for architects and our industry. My concern is only that we do it well."

CHARLES HAINES, newest addition to the firm name of Voorhees Walker Smith Smith and Haines, joined the organization in 1932. (*see A/E NEWS p. 5*) A graduate of Kansas University in architectural engineering, he went on to Columbia University where he received a baccalaureate degree in architecture; from there to the Fontainbleau School of Fine Arts and back to New York's New School for Social Research for graduate study. A member of many societies—AIA, BRI, ASME, ASA, New York Building Congress—to mention a few, Haines has served in several executive capacities in each group including chairmanship of the AIA's Committee on Nuclear Facilities.

A former mayor of Tarrytown, New York, he has devoted time to various civic commissions and planning boards. Charles Haines is the author of many articles and papers on the design of research laboratories.

communications

(*Con't from page 9*)

This is not to deny proper recognition and credit to the work of such creative engineers as Fred Severud, Paul Weidlinger, and others in this country and Maillard, Nervi, Candela, etc., in other countries. But Frank Lloyd Wright, Matthew Nowicki, Victor Lundy, Paul Rudolph, Lou Kahn, and many others who have shown structural inventiveness are architects who have thought their designs through as structure as well as from the point of view of function and esthetics, and have called upon the engineers only to the extent of verifying what they have done.

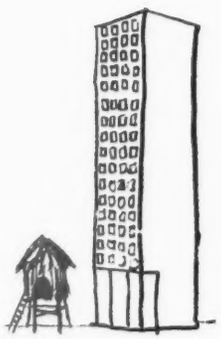
Original structural innovations are few: the imitations and adaptations are many. Many of them become cliches and we tire of them. We believe the soundest approach is to solve our own structural problems in the most effective and economical way and to avoid forcing someone else's solutions into our work because they are momentarily fashionable. Architecture is too great a thing to be debased by stylism.

In the work done by this office we have engaged the services of many fine consulting engineers for whom we have the highest respect and friendship. We do not, however, regard them as collaborators but rather as professional technical advisers and assistants. We design our own structures in all essentials and count on the engineer to check and verify our work and supply the detail computations for sizes of members, connections, etc. They can do this efficiently and economically and we can spend our time on the more creative aspects of our work.

We do not doubt that there are and have been instances of collaboration between gifted engineers and architects in which each has contributed significantly to the design concept. In most cases of which we know, however, one or the other has dominated and has been responsible for the important decisions. Whether he was nominally an architect or an engineer, he was therefore the *architect* of this particular job. There must be one mind in control if you are to have Architecture . . .

Most sincerely,
KENNETH REID, AIA
for Office of
ERNEST J. KUMP, FAIA

editorial



For centuries man has acquired the ability to tame his environment and to produce the arts, sciences, and systems of learning and behavior whereby we live. This path of Western civilization has evolved from time-old Greco-Roman precedents.

When the American Institute of Architects was formed over a century ago, its founders, cast in the Jeffersonian image of gentlemen-architects, were traditionalists bred to the ideals of the classical age of Greece.

Little did they dream that the next 100 years would create an imbricate order of scientific ages: steam, steel, hydro-electric, telecommunications, aviation, chemistry, electronic, nuclear, and now—the age of space exploration.

The dynamics of contemporary technology have produced changes far beyond the wildest fires of imagination of any 19th century prophet.

Everywhere in these United States, up from the cities, over the plains, across the Rockies to the Pacific waters, a new architectural frontier is being forged . . . out of the coming-of-age of the architectural and allied engineering professions and the tremendous base of established experience in previous buildings. These factors as well as the rapidly advancing developments in new materials and new uses for old materials are creating a fascinating promise of an enriched, dramatically new architecture.

Our nation, rich and bountiful in this period, has an architecture of truly continental scale: *"We live in more than 40 million dwelling units, work in more than 240,000 factories and industrial plants, shop in more than 1,700,000 retail stores, struggle with our accounts at more than 14,600 banks, educate our children in more than 186,000 elementary and secondary schools and 1,800 institutions of higher education, recoup our health in more than 6,400 hospitals, relax in more than 19,000 cinemas, worship in more than 281,000 churches, mail or letters in about 41,000 post offices, and fill with elected and appointed officials the countless governmental buildings of our nation, our 48 states, our 3,070 counties and our 71,118 incorporated boroughs, cities, towns, and villages."**

The roster of building types illustrates only a few of the more than 270 kinds of structures required to shelter the activities of our population; and this population is going to increase by *63 million by 1975*, according to Ralph J. Watkins of the Brookings Institution, thereby requiring more than one and one half million new commercial conveniences in addition to the resulting expansion of activity by existing business concerns.

A recent economic projection by the Rockefeller Brothers Fund forecasts a sizeable increase in public construction in the next 20 years. The Rockefeller report predicts that public works spending alone (exclusive of schools and hospital construction) will increase in the

* *The Architect at Mid-Century, Vol. I*

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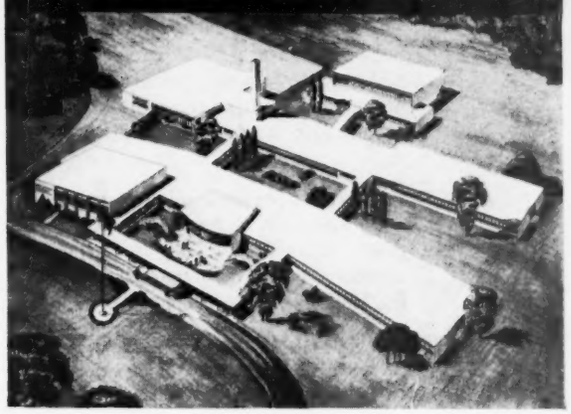

West Morris Regional H. S., Morris County, N. J., one of fourteen prominent schools recently designed by Micklewright & Mountford, Architects & Engineers, Trenton, N. J. and Morrisville, Pa. Zonolite concrete roof decks used in all these schools.

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Further Information Circle 67

editorial

next ten years from the currently annual $9.5 billion to between $20.5 billion and $27.0 billion in 1967.

The publishers of ARCHITECTURAL & ENGINEERING NEWS have developed an estimate based on a conservative analysis of current U. S. Department of Labor and Commerce statistics of total new construction "in place." Their projection of $31 billion annually is for that area of building, exclusive of residential and heavy engineering construction, which architects design and specify together with their consulting engineers. This optimistic outlook in the building economy is constantly being reinforced by many reliable sources.

In no other period in history has such a vigorous challenge existed for the architect and the engineer. His profession is constantly gaining prestige as fresh demands are being made on his time and his creativeness.

We speak of a *new architecture*. To us, it is not an architecture of a style or a school. We are *observing* a total production of ideas. Walter A. Taylor, AIA Director of Education and Research, writing recently in the *Journal of the AIA* captures the essense of this thought. "The fundamental function of the profession: to create an artificial environment for human activities which will successfully counteract and/or capitalize on the natural environment, and which will give maximum satisfaction to humans functionally, socially, fiscally and in terms of a total sense of well-being, the new esthetic."

Thus a *conceptual* architecture is born of the maturing qualities of the professions . . . the meaningful judgments, the responsible administration of client needs, and the wholesome influence of the architectural and engineering professions in American communities: both large and small.

Two words characterize our participation in this process: service and communications.

A service shall be performed by helping to create a more effective liaison between the architect and the consulting engineer.

Communications shall occur as we function as a medium of inter-exchange of experience and ideas.

We are eager to help state the needs of the professions in this transitional period in which the impact of new technology is expressed in day-to-day practice, in preparatory education, in architect-engineer relationships.

Your response, your comments will assist us in crystallizing our publication into an authoritative source of building technology news. *JJC*

documents

PLASTICS IN BUILDING ILLUMINATION: DAYLIGHT & ELECTRICAL SOURCES. *Workshop Report, BRI Plastics Study Group Meeting, Univ. of Houston, 1958. 100 pp., illus., $3.00. Available from BRI, Nat'l Academy of Sciences, 2101 Constitution Avenue, Wash. 25, D.C.*

Objectives of building illuminations are first considered, followed by specific applications now in use of plastics in building illumination with daylight or electric sources. Future uses under development also presented, including illumination with multi-purpose building elements, insulating plastic panel walls, etc.

Further Information Circle 301

New publications given below are available from: AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM), 1916 Race Street, Philadelphia 3, Pa.

BUILDING CODES, Compilation of ASTM Standards in-. Special compilation of over 206 standards and methods included by reference or mention in most commonly used uniform building codes. Of special interest to building code officials, architects, and engineers. 1080 pp. 1958 edition supercedes earlier ones. Paper cover. $8.00.

Further Information Circle 302

CEMENT AND CONCRETE-STP 205. Eight papers include effect of storage on Air-Entraining Cements; Hydrophobic cement; Carbonation of Hydrated Portland Cement; Partial Replacement of Portland Cement in Concrete; Alkali Aggregate Phase of Chemical Reactivity in Concrete, Part II; Effect of Aggregate Quality on Resistance of Concrete to Abrasion; Test of Prestressed Expanded-shale concrete beams subjected to short-time and sustained loads; physical method for determining composition of hardened concrete, 182 pp. 1958. Hard cover. $4.00.

Further Information Circle 303

PLASTICS D-20, COMPILATION OF ASTM STANDARDS. New edition, superceding 1957 edition, contains 43 additional standards. Also included in new edition are tentative abbreviations of terms relating to plastics. 1108 pp. 1958. Paper cover. $6.40.

Further Information Circle 304

THERMAL PROPERTIES OF THIRTEEN METALS-STP 227. Contains extensive data on thermal conductivity, thermal expansion, specific heat, and density for aluminum, chromium, copper, inconel, magnesium, molybdenum, monel K, and 4 grades of steel. Compiled by Lukes and Deem. 36 pp. 1958. Paper cover. $1.25.

Further Information Circle 305

PAINT, VARNISH, AND RELATED PRODUCTS, Compilation of Standards On-. Specifications and methods of test for pigments; drying oils, thinners, shellac, varnish and paint dryers; lacquer and lacquer materials, traffic paint, etc. Other items include reflectivity test, definitions, weathering tests, sampling requirements, glass test, reactivity and rusting standards. Some 200 standards. 1958 Edition supercedes earlier edition. 900 pp. Paper cover. $8.25.

Further Information Circle 306

STRUCTURAL SANDWICH CONSTRUCTION-STP 201. Eleven papers originally presented at Second Pacific Area National Meeting cover high temperature testing, adhesive bonds (metal to metal, metal to resin) and applications. 107 pp. Hard cover. $2.75.

Further Information Circle 307

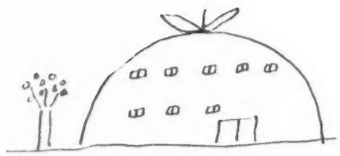
SOILS: CONFERENCE ON SOILS FOR ENGINEERING PURPOSES-STP 232. Fifteen papers on sampling equipment and consolidation, compaction, and compaction control, and soil strength. Presented at Mexico City joint meeting on Soils. 510 pp. 1958. Paper cover. $9.00.

Further Information Circle 308

SOIL TESTING PROCEDURES, Compilation of Standards on-. Provides a comprehensive picture of current practices in evaluation of soils. 1958 Edition supercedes 1950 edition. Contains extensively revised suggested methods for testing soils which comprise more than half of book. 580 pp. 1958. Paper cover. $6.75.

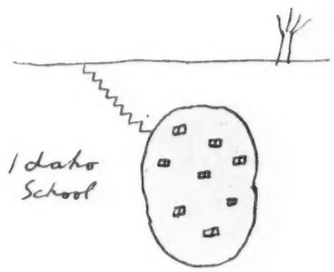
Further Information Circle 309

books



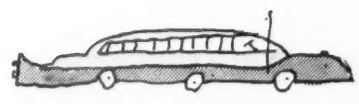
Georgia School

Florida School



Idaho School

Gothic School
The Little Red Cloisters



Detroit School Bus
R. O. Blechman

SCHOOLHOUSE *by Walter McQuade, AIA, with Eggers and Higgins, Architects, and Aluminum Company of America. New York: Simon and Schuster, 1958. 271 pp., illus. $10.00*

Reviewed by:
Daniel Schwartzman, AIA

This book has been beautifully organized to cover every phase of the school building procedure from the programming of its requirements through the choosing of the architect, receiving the approval of the community, bond financing, relationship of the buildings to the site, the structure, acoustics, lighting, furnishings, heating and plumbing, to the detail and character of the design.

If just the first four chapters covering the problem of establishing a clear statement of educational policy and the programming of the requirements were read and clearly understood by every educator, administrator and architect faced with the responsibility of creating a worthy school plant, it could constitute for the editors, sponsors, contributors and publisher one of the most valuable contributions that has ever been made in this field.

One of the major pitfalls in school design has been the often-misunderstood difference between the "statement of requirements," which is the sole responsibility of the client, the school administrators, and the "production of the solution," which is the sole responsibility of the architect.

Walter McQuade has expressed this masterfully, if cynically, in quoting a school architect who said: "While the children do not always get the school they deserve, the School Board does."

(Con't next page)

The chapters on the technical aspects and the illustrations of successfully designed school buildings by the country's outstanding architects will not necessarily be news to architects and engineers who are subscribers to our better professional publications, but according to Alfredo Valente, one of our great portrait photographers, "never have these familiar architectural photographs or the wonderful, informal photographs of school children at their unselfconscious best been more superbly reproduced," for which credit should deservedly be given to the Photogravure and Color Co., and the John B. Watkins Co.

Editor's note: plus the comically inventive and highly imaginative cartoons by R. O. Blechman, some of which are seen on page 45.

The Exploding Metropolis *by the Editors of Fortune. New York: Doubleday & Co., 1958. 193 pp., illus. $3.95*

Provocative and worthwhile study by editors of *Fortune* asks whether the city has a future.

Philosophy of Structures *by Eduardo Torroja. English version by J. H. & Milos Polivka. Berkeley: Univ. of California Press, 1958. 416 pp., 205 illus. $12.50*

Systematic but non-mathematical, the volume discusses basic concepts and ideals of advanced structural design; surveys material uses, structural elements, methods that are transforming contemporary building techniques.

Air conditioning

Design of Air Conditioning Systems *by F. W. Hutchinson. New York: The Industrial Press, 1958. 336 pp., illus. $7.00*

Contents: Introduction. Psychometrica. The cooling load. Solar Energy —Irradiation rates and protective shading. Comfort, health, and inside design state. Supply state and supply volume. Air flow through ducts and fittings. Noise as problem in air distribution. Panel cooling design. Appendix, Bibliography. Index to graphs. Subject. Chapter 5 is particularly detailed treatment of thermal comfort level data.

Engineering

Design and Construction of Asphalt Pavements *by Martin J. Rogers and Hugh A. Wallace. New York: McGraw-Hill Book Company, Inc., 1958. 305 pp., illus. $11.50*

Essentially an engineering book, introduces fundamentals of asphalt chemistry.

A Dictionary of Civil Engineering *by John S. Scott. Baltimore: Penguin Books, Inc., 1958. 415 pp., illus. paper-back 95¢*

Terms such as *dog whipper* may have their poetic attraction; however, engineers are familiar with them as much as they are with *prestressed concrete;* of interest to laymen and other non-specialist engineers.

Recent Advances in the Engineering Sciences: *their impact on engineering education. Proceedings of Conference on Science and Technology for Deans of Engineering, Purdue University. New York: McGraw-Hill Book Company, Inc., 1958. 256 pp., illus. $4.75*

Surveys of recent developments in seven fields of engineering science and technology.

Mathematics

Mathematics of Physics and Modern Engineering *by I. S. Sokolnikoff and R. M. Redheffer. New York: McGraw-Hill Book Company, Inc., 1958. 810 pp. $9.50*

Noise

Principles of Noise *by J. J. Freeman. New York: John Wiley and Sons, Inc., 1958. 299 pp. $9.25*

Plant engineering

Plant Engineering Practice *by Editors of Plant Engineering, New York: F. W. Dodge Corp., in cooperation with the Technical Publishing Co., 1958. 694 pp., illus. $18.50*

Reprints of articles; contents: sites & layout. Construction, safety, materials handling, maintenance. Mechanical power and piping systems. Lighting, utilities, heating, ventilating, and air conditioning.

Plastics

Cellulosics *by Walter D. Paist. New York: Reinhold Publishing Corp., 1958. 270 pp., illus. $5.75 (Reinhold plastics applications series.)*

A Guide to Plastics *by C. A. Redfarn. New York: Philosophical Library, Inc., 1958. 150 pp., illus. $7.50*

Structural engineering

Reinforced Concrete in Architecture *by Aly Ahmed Raafat. New York: Reinhold Publishing Corp., 1958, 240 pp., illus. $15.00*

Historical survey of material and study of its impact of recently developed engineering principles on architectural design.

Theory of Structural Analysis and Design *by James Michalos. New York: The Ronald Press Co., 1958. 552 pp., illus. $12.00*

The author is Chairman of the Dept. of Civil Engineering, New York University.

films:

New Age of Architecture *produced by Editors of* Architectural Forum *and Transfilm. Available on free loan from AIA, The Octagon, Washington 6, D.C. 16 mm sound, black & white print, running time: 42 min.*

Film theme forecasts next two decades of change in physical appearance of the U. S. Presents economist Colean and architects Wright, Stone, Owings, Van der Rohe, and Saarinen, among others, as commentators.

digest:1

NEW ILLUMINATION LEVELS

A NEWS REPORT—BLACKWELL/ILLUMINATING ENGINEERING SOCIETY STUDIES

RECOMMENDED HIGHER ILLUMINATION LEVELS for hundreds of specific *seeing* tasks have been announced by the ILLUMINATING ENGINEERING SOCIETY. A new set of tables for recommended practices will be published in full early next year in a new edition of the society's *Lighting Handbook*, a guide to sound illumination practice widely used by architects, consulting engineers, lighting designers and related professionals.

The new knowledge was developed by a team of vision experts directed by Dr. H. Richard Blackwell at the Vision Research Institute of the University of Michigan. The application of this research has been conducted by 14 IES specialized technical committees, 10 of which have completed their studies and submitted their findings. They deal with specific recommendations in the following fields of specialized lighting: industrial, residential, offices, stores, commercial kitchens, restaurants and dining areas, public conveyances, hotels, hospitals, art galleries.

The result of an eight-year critical study of the relationship of light to sight, the new system is considered by IES leaders to be the most scientifically accurate and adaptable technique for evaluating light needs.

Dr. Blackwell's laboratory tests developed a mass of statistical data in terms of "difficulty of seeing." In order to relate the information based on laboratory targets to actual *seeing tasks* in the field, Dr. Blackwell devised a complex optical instrument which he called a VISUAL TASK EVALUATOR. He also developed a set of mathematical compensating "factors" to adjust to data for such practical field conditions as motion and degree of required accuracy of seeing.

According to Kirk M. Reid, President of IES, there are many other projects under way. The evaluation of quantity research by Blackwell is only one phase of a several-part study on *quantity* of illumination. There are other researches now in progress also on *quality*, on computers for the accurate prediction of illumination, and on roadway lighting. In time, answers will be provided for: 1. quantity need for older eyes; 2. quantity needed for eyes having subnormal vision; 3. ocular motor effects; how eyes focus under varying levels of illumination; 4. discomfort glare; 5. brightness ratio; 6. predicting illumination values.

Following is a *partial* list of major *new* lighting level recommendations by the ten committees compared with the levels previously announced. The new footcandle recommendations are given in Column 1 in the following table, the previous corresponding recommendations in Column 2. Those appearing blank had no previously established level:

DESCRIPTION	STANDARDS	
Areas and seeing tasks:	**New**	**Old**
Art galleries:		
general	30.0	10.0
on paintings (supplementary illum.)	30.0	50.0
on statuary & other displays	100.0	minimum
Banks:		
lobby		
general	50.0	——
writing areas	70.0	——
tellers' stations	150.0	——
posting and keypunch	150.0	——
regular office work	100.0	——
Depots, terminals, stations:		
waiting room	30.0	——
ticket offices		
general	100.0	——
ticket rack/counters	100.0	——
rest room/smoking room	30.0	——
baggage checking	50.0	——
storage	20.0	——
concourse	10.0	——
platforms	20.0	——
toilets/washrooms	30.0	——

DESCRIPTION	STANDARDS	
Areas and seeing tasks:	**New**	**Old**
Exterior areas:		
entrances:		
active: pedestrian and/or conveyance	5.0	2.0
inactive: infrequent use	0.1	0.5
vital locations or structures	5.0	2.0
building surrounds	1.0	0.5
active shipping area surrounds	5.0	2.0
storage areas: active	20.0	——
storage areas: inactive	1.0	——
loading/unloading platforms	20.0	——
Hotels:		
auditoriums, assembly only	15.0	10.0
exhibition	30.0	30.0
dancing	5.0	5.0
bathrooms: mirror	30.0	40.0
bathrooms: general	10.0	10.0
corridors and stairs	15.0	10.0
elevators	15.0	——
entrance foyer	30.0	——

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digest:1

DESCRIPTION	STANDARDS	
Areas and seeing tasks:	**New**	**Old**
front office	50.0	——
laundry:		
washing	30.0	40.0
flat work ironing	30.0	40.0
machine press finishing	50.0	40.0
linen room-sewing	70.0	20-150.0
general	15.0	20.0
lobby:		
commercial hotel	20.0	20.0
residential hotel:		
architectural environment	10.0	20.0
reading and working area	30.0	20.0
marquee:		
dark surroundings	30.0	——
bright surroundings	50.0	——
Municipal buildings:		
police		
identification records	150.0	——
jail cells/interrogation rms	30.0	——
fire hall		
dormitory	20.0	——
recreation room	30.0	——
wagon room	30.0	——
post offices		
lobby, on tables	30.0	——
sorting, mailing, etc	100.0	——
storage	20.0	——
corridors and stairways	20.0	——
Office lighting:		
designing, detailed drafting	200.0	50.0
accounting, auditing, reading, rough layout drafting	150.0	50.0
regular office work, reading/transcribing in hard pencil or on poor paper, active filing, index references, mail sorting	100.0	30.0
reading or transcribing handwritten in ink or medium pencil on good quality paper, intermittent filing	70.0	30.0
reading high contrast or well-printed material, not involving critical or prolonged seeing such as conferring, interviewing, inactive file and washrooms	30.0	10.0
corridors, elevators, escalators, stairways	20.0	5.0

DESCRIPTION	STANDARDS	
Areas and seeing tasks:	**New**	**Old**
Residences:		
table games	30.0	——
kitchen activities		
sink	70.0	——
range and work surfaces	50.0	——
laundry, trays, ironing board	50.0	——
reading/writing/studying		
books, magazines, papers	30.0	——
handwriting	70.0	——
desks, study	70.0	——
shaving/make-up, grooming	50.0	——
Restaurants:		
lunch rooms, cafeterias:		
dining areas—intimate type	3-10	10.0
cleaning	20.0	10.0
leisure type	15.-30	10.0
quick service type	50-100	10.0
Stairways, washrooms, & other service areas:	20.0	10.0
Storage rooms:		
inactive	5.0	1.0
active:		
rough bulky	10.0	5.0
medium	20.0	10.0
fine	50.0	20.0
Store lighting: (visibility)		
price tag A—printed	3.0	——
price tag B—pencil written	250.0	——
sales slips/pencil written	65.0	
subtle color patterns	900.0	
clothing—light colored pattern	800.0	
clothing—dark colored pattern	900.0	
linens—white thread on white cloth	3000.0	
package labels—		
good contrast	3.0	——
poor contrast	65.0	——
furniture—wood textures	200.0	——
store interiors:		
circulation areas	30.0	20.0
merchandising areas:		
service stores	100.0	50.0
self-service	200.0	100.0
showcases and wall		
cases: service	200.0	100.0
self-service	500.0	200.0
feature displays: service	500.0	200.0
self-service	1000.0	500.0
stockrooms	30.0	20.0

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calendar

DECEMBER:

1-3 AMERICAN SOCIETY OF REFRIGERATING ENGRS: 45th semi-annual meeting, Roosevelt Hotel, New Orleans, La.

1-5 AMERICAN SOCIETY OF MECHANICAL ENGRS: Exposition of power & mechanical engineering, COLISEUM, NYC.

3 NATL INST FOR ARCHITECTURAL EDUCATION (BAID): annual meeting, NYC.

3-4 BUILDING RESEARCH INST: conference on field applied paints & protective coatings, Shoreham Hotel, Washington, D.C.

4 AMERICAN IRON & STEEL INST: meeting, Hotel Statler, Buffalo, N.Y.

7-10 AMERICAN INST OF CHEMICAL ENGRS: annual meeting, Netherland-Hilton Hotel, Cincinnati, Ohio.

8-19 EXHIBITION OF SCULPTURE: CONSTANTINO NIVOLA: review by Architect Paul Nelson, Dec. 11, Architectural League, NYC.

10-11 FOURTH NATL CONSTRUCTION INDUSTRY CONFERENCE: co-sponsors: AIA, ASCE, AGGA, BRI, ARMOUR RESEARCH FOUNDATION, Hotel Sherman, Chicago, Ill.

JANUARY:

8 TASTE IN ARCHITECTURE: analysis by Carroll Meeks, Prof. of Arch., Yale University; Architectural League, NYC.

14-15 BUILDING RESEARCH INST: conference on noise control in buildings, Hotel New Yorker, NYC.

19 AMERICAN INSTITUTE OF CONSULTING ENGRS: annual meeting: speaker: Maj. Gen. John B. Medaris; Engineers Club, NYC.

26-29 ASHAE, AMERICAN SOC OF HEATING & AC ENGRS: 65th annual meeting, Philadelphia, Pa.

27-30 SOC OF PLASTICS ENGRS: 15th ANTEC: use of plastics in buildings; Commodore Hotel, NYC.

FEBRUARY:

1-6 AMERICAN INST OF ELECTRICAL ENGRS: convention, Hotel Statler, NYC.

2-7 ASTM NATIONAL MEETING: committee week, William Penn Hotel, Pittsburgh, Pa.

3-5 SOC OF PLASTICS INDUSTRY: 14th SPI reinforced plastic division conference; Edgewater Beach Hotel, Chicago, Ill.

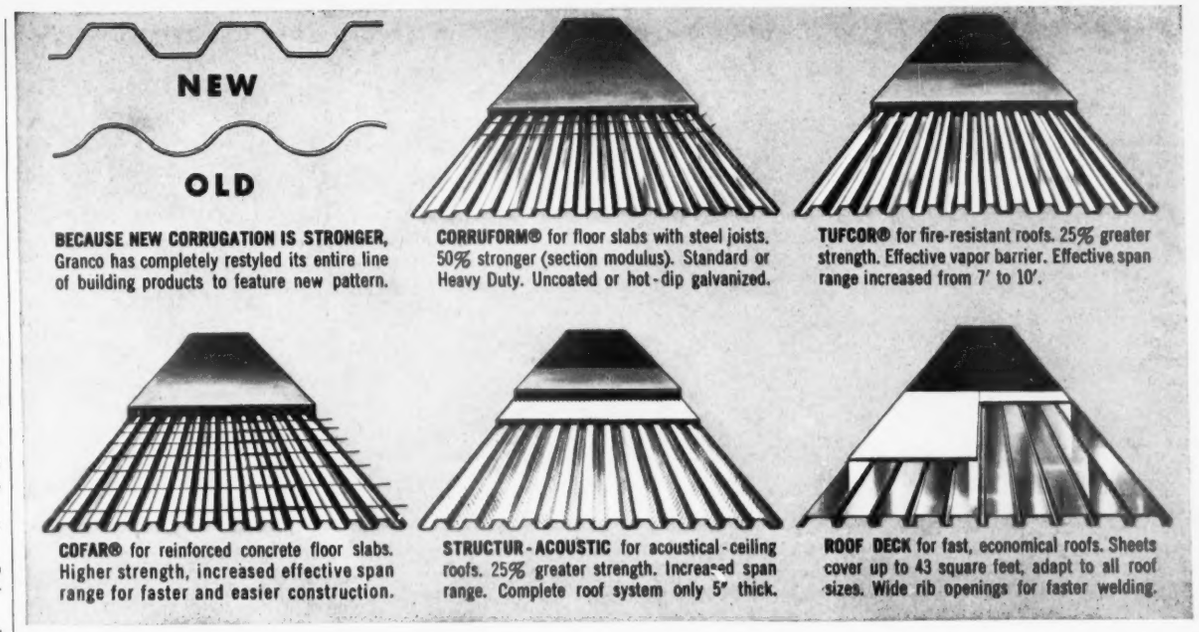
9-13 AMERICAN SOC OF CIVIL ENGRS: convention, Statler-Hilton, Los Angeles, Calif.

15-19 AIME: annual meeting, Sheraton-Palace, St. Francis, Drake Hotels, San Francisco, Calif.

16-27 EXHIBITION OF CRAFTSMANSHIP: CEILING: form and texture, Architectural League, NYC.

23-26 AMERICAN CONCRETE INST: annual convention, Statler-Hilton, Los Angeles, Calif.

23-26 AIME: symposium on Themophysical properties: Purdue University, Lafayette, Ind.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